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ABSTRACT

This guide is designed to serve as a reference for both beginning and experienced teachers in a preemployment laboratory that is part of a coordinated vocational-academic education program. Addressed in the individual sections of the guide are the following topics: student eligibility and approved coordinated vocational-academic programs, safety and teacher liability, the learning process and principles of motivation, preparation for teaching, methods of instruction, organization of instructional materials, shop organization, organization and administration of a chapter of the Vocational Opportunities Club of Texas, and policies and procedures pertaining to starting and closing school. (MN)

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PRE-EMPLOYMENT LABORATORY TRAINING

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A Guide for

COORDINATED VOCATIONAL-ACADEMIC EDUCATION SHOP and LABORATORY INSTRUCTORS

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See Area Specialist Map Next Page

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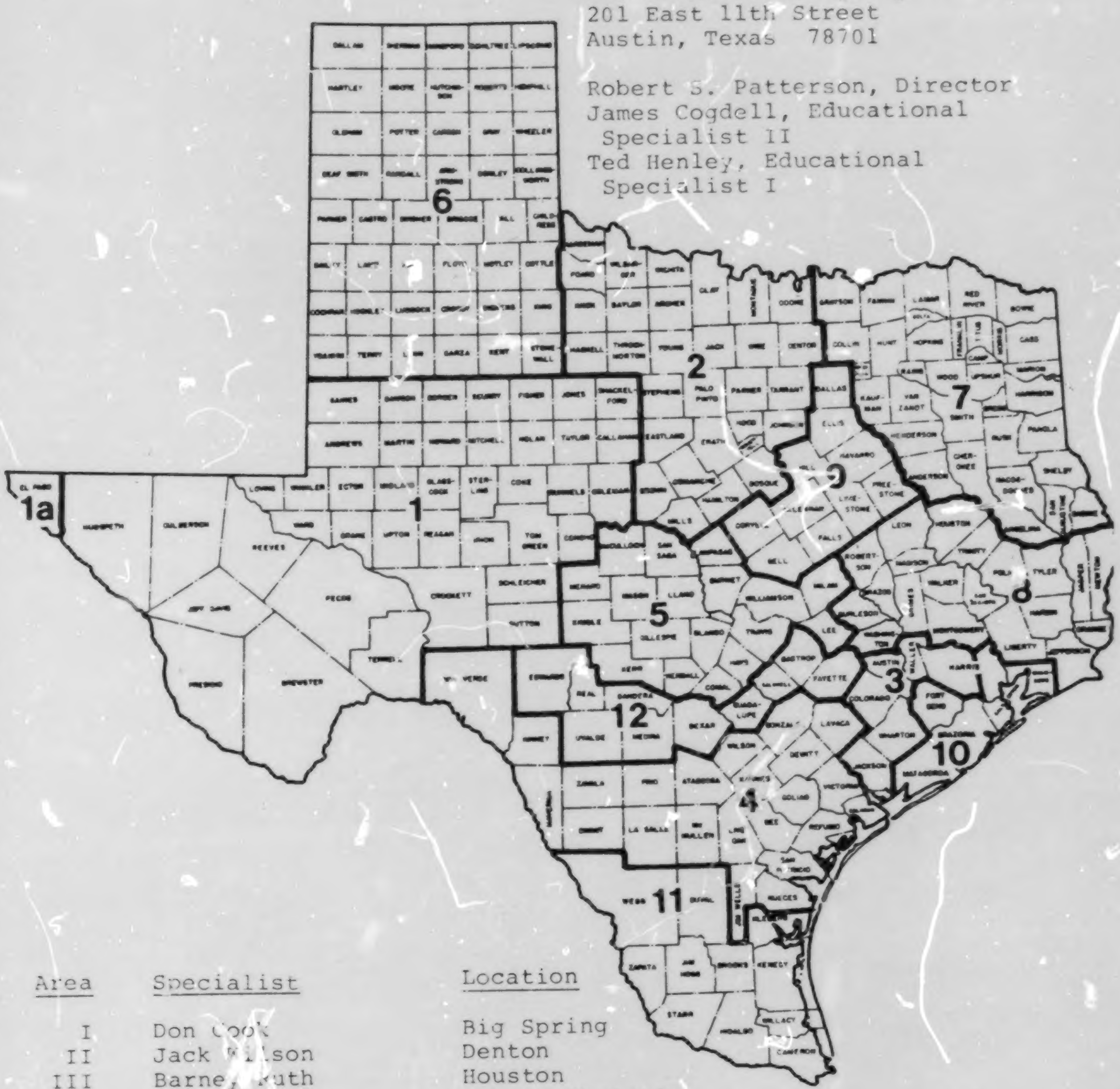

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ACKNOWLEDGMENT

This guide was developed to serve as a reference for the beginning teacher and as a resource or reference for the teacher in a Coordinated Vocational-Academic Education program in pre-employment lab.

The guide cannot describe every situation encountered by the new teacher; it sets forth ideas that will assist teachers in developing techniques and understanding required to deal with the complex problems of teaching laboratory courses.

Training programs vary and all persons tend to feel that the jobs they perform are unique and require a special approach. The contents of this guide should be changed or adapted to meet the practical everyday problems each instructor must solve with his or her students.

The fundamentals stressed here will give positive results and will help new teachers organize their work and overcome many frustrations that result from lack of experience.

Special recognition and acknowledgment is given to James Cogdell and the State-level Advisory Committee, composed of the area specialists who contributed their time and ideas. A special thanks goes to Kathie Wells, editor, Occupational Curriculum Laboratory, Bill Barnes, Director of the entire Occupational Curriculum Laboratory staff, Dr. Billy Murchison, teacher educator at East Texas State University, and Randy Traylor, Curriculum Specialist, who was responsible for the coordination of the revision.

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CHAPTER I

AN INTRODUCTION TO COORDINATED VOCATIONAL ACADEMIC EDUCATION

Coordinated Vocational-Academic Education (CVAE) is a vocational program designed for students with special learning needs. The program includes vocational educational opportunities for acquiring a salable vocational skill. The program is also supported by specialized guidance and counseling services including psychological and occupational aptitude testing. If students are succeeding or can be expected to succeed in a vocational program without special assistance, they should not be classified as disadvantaged and are, therefore, not eligible for the CVAE program.

STUDENT ELIGIBILITY

Public school students eligible for the CVAE program may be enrolled in either of two types of programs: pre-employment laboratory training or cooperative part-time training. Each program differs in standards, methods of operation, and qualifications of teachers. For the purpose of this publication, only the pre-employment laboratory programs will be considered in detail. The pre-employment laboratory program is a trade and industrial course taught in a laboratory with equipment comparable to that used in industrial establishments or businesses whose employees perform semi-skilled jobs.

Basic Requirements

The following requirements must be met by any student for admittance to a CVAE program.

1. Students must be at least 14 years of age sometime during their first year in the pre-employment laboratory program and 16 years of age at the time of entry into the cooperative part-time training program
2. Students must be one or more years below grade level in achievement in three or more academic classes or is so indicated by standardized testing grade equivalency data.
3. Students must be able to profit from the instruction given in the program.

Criteria commonly used by local school officials in determining eligibility of students includes age and grade level, level of academic performance, and performance on one or more achievement tests.

Eligible students will generally exhibit one or more of the following characteristics:

1. Low or underachievement. They are often handicapped academically because of low scholastic ability and/or lack of educational and cultural advantages. One or more years behind in grade level, they are potential students.

2. Low ability in communication skills. They are at a disadvantage with other students because of low reading ability, lack of verbal fluency, lack of creativity, inability to think abstractly, short attention span, and slowness of learning.

3. Irregular attendance, frequent lateness, and lack of interest in school. They feel that they are second-class citizens at school and, as a result, do not like school, believe they cannot learn, and feel their teachers neither accept nor understand them.

4. Lack of personal goals, sense of purpose, self confidence, and often, development of negative self-images. These students may not have an opportunity at home or in their immediate neighborhood to become acquainted with a way of life different from their own, or with persons in occupations of a higher status than those with whom they associate; thus they may not be motivated to attend school or to want something better. Standards of the family and neighborhood may discourage them from aspiring to a higher level of achievement or way of life.

APPROVED PROGRAMS

The beginning phases of the training program may be in relation to a cluster of occupations such as Commercial Display and Decoration, Furniture Repair and Upholstery, General Construction Trades, General Marine Repair, General Mechanical Repair, and Metal Trades. Other courses may be added as the need is established through recognized occupational surveys and forecasts. Such courses must be approved by the Texas Education Agency as specified in The Texas Administrative Code, Chapter 78.

Class Size and Schedule

In CVAE laboratory programs, the instructional time--whether two 45-minute periods (grades 7-8), two 55-minute periods, or two 80-minute periods (grades 9-12)-- must be consecutive, without interruption for lunch, activity period, or other reasons. The students are enrolled in the laboratory class and usually a minimum of three other modified academic classes, leading to high school graduation.

A teacher who is teaching two of the double-period laboratory or shop classes should be considered a full-time teacher. Each pre-employment teacher must use at least one additional period each school day to work with the academic teachers to coordinate the vocational-academic program. The other non-teaching periods are to be used for class preparation and conference. Upon special approval, an instructor may be assigned three classes per day, provided the school is operating more than six periods per day.

The pre-employment laboratory teacher is employed for 10 or 11 consecutive months.

Instruction

Instruction is based upon analysis of the trade or occupation taught. It is centered around the performance of useful or productive jobs or operations done by students, in accordance with the accepted procedures and standards which prevail in the occupation taught. After gaining sufficient skill and knowledge of various operations through laboratory experiences, the student should be assigned real jobs provided by partons of the school. Charges cannot be made for such work other than for parts, supplies, and materials. Donations to the V.O.C T. may be accepted for labor performed.

Instructional Materials

The school should provide a technical library for the occupations taught. In addition, shop manuals, equipment catalogs, trade journals, guidance materials, and a variety of visual aids are needed for effective instruction.

Qualifications of Teachers

The pre-employment laboratory shop teacher will have more intimate and closer contact with the students than any other member of the school faculty. The instructor must, therefore, have a good reputation as a craftsman in the particular occupation.

A teacher may qualify to teach coordinated vocational-academic pre-employment shop classes in one of three ways:

1. A high school graduate with five or more years of full-time, wage-earning experience in one or more of the instructional areas of the cluster to be taught.
2. A college or university graduate with two or more years of full-time, wage-earning experience in one or more of the instructional areas of the cluster to be taught.
3. A certified vocational industrial education teacher (regular pre-employment laboratory) in the trade area related to the cluster to be taught.

Certification of Teachers

After the Statement of Qualifications (TCER-026) of a prospective teacher has been approved by the Division of Certification, TEA, and the applicant has been employed by a public school, an Emergency Permit for one year may be issued. A second emergency permit may be issued for the second year of teaching, provided the teacher has completed three specified teacher-training courses in an approved vocational industrial education teacher-training institution.

A teacher may be issued a Provisional Certificate (with an endorsement in industrial coordinated vocational-academic education), provided the applicant has successfully met several requirements. The teacher must have completed the six specified teacher-training courses through a designated teacher-training institution. The teacher must have successfully taught in the specified field for two years. The teacher must furnish the Certification Division of the Texas Education Agency a completed application form accompanied by an official transcript indicating successful completion of the statutory requirement for United States and Texas government.

Facilities

The operating school has the responsibility of providing adequate laboratory space, auxiliary rooms, equipment, and supplies for each instructional program. The laboratory area must be large enough to permit a comfortable and safe work area around each item of machinery or equipment. An area is required within the laboratory class space where students may assemble for group instruction, demonstrations, and other activities.

The laboratory building itself should be located on the school campus, though not necessarily attached to the main building. It should be comparable to other buildings in design and construction.

Additional information regarding laboratory space requirements and arrangements may be secured from the Texas Education Agency's vocational industrial education area specialist who serves the area.

Equipment, Tools, and Supplies

Items of equipment, tools, and supplies must be comparable in type, size, and quality to those used in commercial establishments. It is the school's obligation to keep equipment up-to-date and in a state of good repair. The teacher should maintain an inventory of all equipment and should submit a list of needed equipment and supplies to the administrator at the end of the year. The teacher should also maintain an organized system for housing and issuing tools, small parts, and supplies to pupils.

Budget, Inventory, Records, and Reports

The school should provide, for instructional materials, a minimum of $15 per student for the operation of the program for the first year and $10 per student for each succeeding year of operation. This amount is over and above the state operating funds received for each vocational teacher unit. These funds could be used for (1) instructional materials, (2) teaching supplies, (3) technical library, and (4) purchase of minor instructional materials.

Prices charged for products or services produced through laboratory experiences shall cover only the cost of the supplies and materials used. The proceeds from such sales shall be used as part of the operating cost, but in no case should the program be required to be self-supporting.

An annual budget shall be formulated by the teacher, and a record of expenses for the program, showing the spending of designated amounts, shall be maintained throughout the year. An inventory of equipment and materials shall be prepared each year. Copies of the inventory, budget, and expense records shall be filed in the school office and the laboratory.

Records necessary for the development of an effective program shall be prepared, kept up-to-date, and filed in the appropriate school office and pre-employment laboratory. Reports on program operation and development shall be submitted to the local administrator and the Texas Education Agency as required.

Local Advisory Committee

A committee composed of equal numbers of local employers and employees, representing the occupation for which training is being offered, should be appointed by the superintendent of schools. The committee should assist in determining student entrance standards, scope of the training program equipment, program standards, and in providing other advisory assistance. The advisory committee has no administrative authority, but is helpful in assuring an efficient training program which produces graduates who are employable in the fields for which training is offered.

Evaluation and Follow-up

Schools conducting vocational industrial education programs are required to evaluate annually the quality and effectiveness of the programs and to make revisions and improvements as needed. A local follow-up record for each student in the program must be maintained for five years. Schools will develop forms and plans for maintaining a complete follow-up record for each student.

CHAPTER II

SAFETY AND TEACHER LIABILITY

One of the instructor's most important responsibilities is providing the safest working conditions and building safety attitudes and habits. The instructor should make a continuous effort to establish a complete safety program that involves each student in school and community endeavors.

This chapter is designed to provide the instructor with various ideas on how a safety program can operate. It is important to plan a safety program that will be complete and not have slack areas or begin to lag in the middle of the year. The instructor must prepare before the student can be motivated.

General and Specific Safety Rules

Every shop class demands different safety rules because of different equipment, building design, or type of students. Each instructor should prepare both general and specific safety rules designed for his/her particular shop. Students may prepare the lists individually or in a group.

Lessons should be prepared to teach the general and specific safety rules. Usually the general safety rules are presented at the first of the year and the specific safety rules are taught throughout the year. The following list of general safety rules contains only some of those that might be covered at the first of a school year.

1. Keep the laboratory clean and orderly and keep aisles clear.
2. Put all equipment back in correct storage place before leaving classroom. Each student is responsible for storing any equipment used.
3. Wipe up all spills immediately to avoid slipping or falling.
4. Housekeeping duties are to be done at regular times and should be done before the end of the period.
5. Keep drawers and cabinet doors closed to avoid slipping or falling.
6. Avoid wearing loose-fitting clothing and dangling jewelry when working in the lab.
7. Use a sturdy step stool when you reach to a high shelf.
8. When using a chair as a step stool, place the chair back against the wall.

9. Make sure all supplies and foods are labeled properly.

10. Turn off machines or appliances and light when not in use.

11. Turn all electrical equipment off at controls before unplugging; have controls off before plugging in electrical socket.

12. When unplugging an appliance, grasp the plug part.

13. Make sure hands are completely dry before plugging in electrical equipment.

14. If any electrical equipment fails to work properly, contact instructor immediately.

15. Never operate a machine without proper instructions.

16. Sweep up broken glass immediately and wrap in paper.

17. Handle all sharp-edged or pointed objects with care.

18. Keep legs of chair on floor.

19. Avoid all forms of horseplay while in the lab and classroom.

20. Do not plug too many appliances into one outlet.

21. Never carry objects too high to see over.

22. Keep hair out of eyes.

23. Keep tools in the proper places.

24. Use the right tool in the right way for the job.

25. Know the location of the fire extinguisher and how to use it.

26. Know the location of the first aid kit.

27. Allow plenty of space for working purposes.

28. All horseplay should be left outside the classroom.

29. Follow all instructions and safety precautions as given in class. If any questions arise, ask the instructor.

Safety Permits

The students should be required to fill out Student Record Cards on Safety Instruction as a bonding agreement of their safety responsibilities. These let the student know that safety rules must be followed in all shop activities.

Parents should be notified when a student is assigned to a shop class. They should be informed of the type of equipment and nature of work in which the class will be involved. The following parental permit requires a signature by the student and the parent. This is one type of permit that might be used in a shop.

PARENTAL PERMIT TO OPERATE MACHINERY
AND SAFETY PLEDGE

Period ______________________________ Date ____________________________

____________________________________ has my consent to operate the

following power machines in the _______________________________________

School (Printing) (Mill) (Metal) (Auto Mechanics) (Electricity) Shop,

under the supervision of the teacher in charge. Please cross out the

name of any machine you do not wish your child to operate.

Mill Shop

Lathe
Shaper
Jig Saw
Jointer
Mortising Machine

Circular Saw
Band Saw
Grinder
Hand Router
Surfacer

Metal Shop

Lathe
Drill Press
Shaper
Grinder

Milling Machine
Welding
Furnace
Forge

(This is just a suggested list of machines.)

____
Parent or Guardian

I hereby promise most sincerely to observe all safety rules set up in this shop. Furthermore, I will try to protect others from hazard and accidents and, if necessary, call the attention of the instructor to any violation of the safety rules.

____
Student

When a student is working with hazardous equipment or traveling, the need for a doctor could arise. A Student's Private Physician Card should be completed early in the year to allow a doctor to render treatment in case of an accident. These cards should be kept on file and taken on all field trips. The following example is one type of card that might be used.

FRONT

Child's Last Name	First Name	Middle Name
Home Address		
Parent's Home Telephone	Parent's Business Phone	
Physician's Name	Physician's Address	
Physician's Home Telephone	Physician's Office Telephone	
Parent's Signature		
School		
Student's Private Physician Card		OVER

REVERSE

Date ____________________

In the case of accident or serious illness, if the school is unable to contact me, I hereby authorize the school to take my child to the physician indicated on the reverse side of this card. If it is impossible to contact this physician, the school may take my child to a hospital authorized by the Board of Health.

____

Parent's Signature

Each time students are required to travel, they should have written consent from a parent or guardian. A travel permit should be sent home well in advance of the trip. Travel permits can be written to give parental permission all year, but it is usually better to fill out one form for each trip. The following form is a typical Travel Consent Form.

Travel Consent of Parent

Date ______________________

Dear ______________________
(sponsor)

We have discussed the trip to ______________________ for ______________________ with ______________________ and
(organization) (student)
have given our permission for him/her to attend this meeting and participate in the activities involved.

______________________ has assured us that he/she will conduct himself/herself in such a way that credit will be reflected upon ______________________ and the organization he/she represents.
(school)
He/she will dress neatly and appropriately for the occasion.

It is understood, of course, that these students will be chaperoned both en route and while at the conference, contest, or meeting, and that normal precautions will be taken in the interest of their safety and well-being. We agree that the sponsors and chaperones will not be held responsible for any accident or misfortune which might occur in connection with this meeting, and grant permission for medical aid.

You may be assured that ______________________ is being permitted to make this trip with our full consent.

Very sincerely yours,

____

____
Signature of parent(s)

____
Date

Organizing Accident Prevention

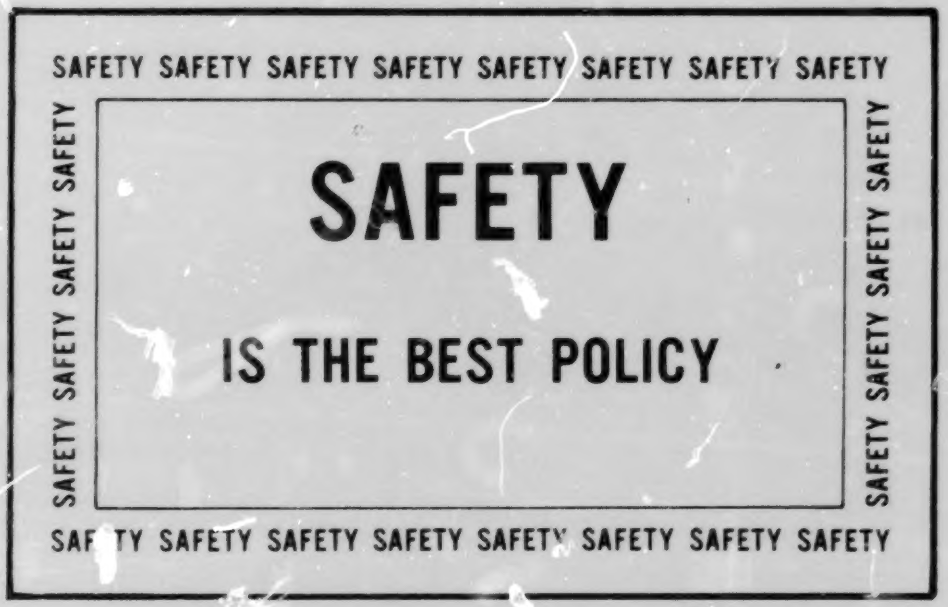
The most important component of an effective safety program is getting the students involved. Telling students about safety in the shop is not enough. Students must feel a need and also be a part of any safety program. Student safety participation can be included within the first two weeks of orientation at the beginning of the year. This can include safety posters, slogans, cartoons, or other safety paraphernalia designed by the student. These activities go well with the safety lessons and tests.

One activity that works well is the making of safety posters. Each student designs and creates an individual project. It should be stressed that any safety idea a student has is important regardless of simplicity. The poster should be on poster board 12" by 18" or a size that can be seen anywhere in the shop area. Students may be allowed to mount their posters over their work station for the year.

The students can compete against each other in designing posters for prizes. The safety poster contest could be judged by two or more outside teachers and a first, second, and third place winner announced in the school and city newspapers along with a picture of student and poster. Ribbons should be presented to these students.

This activity makes the students safety conscious and helps the instructor determine students with talent in lettering, painting, creative design, etc., which can be useful in future shop projects.

One sample safety poster drawn by a CVAE student is shown below.



SAFETY SAFETY SAFETY SAFETY SAFETY SAFETY SAFETY SAFETY

SAFETY SAFETY SAFETY SAFETY

SAFETY

IS THE BEST POLICY

SAFETY SAFETY SAFETY SAFETY

SAFETY SAFETY SAFETY SAFETY SAFETY SAFETY SAFETY SAFETY

During the year many students will become relaxed in their safety habits and should be encouraged to continue the use of safety rules. This can be accomplished through the use of a safety supervisor. This student can check the shop each day. Any unsafe practices are recorded by a safety supervisor.

SAFETY SUPERVISOR'S CHECK SHEET

Shop________________________ Room Number____________________

Foreman's Name _________________ Date_______________________

(Note: This form is to be filled out each day)

Duties	Mon	Tues	Wed	Thurs	Fri
1. Are aprons proper?					
2. Grinder tool resting in proper position?					
3. Goggles accessible to pupils?					
4. Hammer free from burrs?					
5. Paint cabinet in order?					
6. Shop clean?					
7. Stock room in order?					
8. All switches checked and gas valves checked at end of period?					
9. Guards in place?					
10. First aid.					
11. Report all "horseplay" to instructor.					
12. Report dangerous work habits.					
13. Watch for improper use of tools.					
14. Report all accidents to instructor.					

Accident Reports

Occasionally there will be an accident in a shop even though safety has been stressed. Records of every accident should be kept. These records can be used to prevent other accidents or possibly as proof of non-negligence. If a copy of an accident report is needed outside the shop, keep the permanent copy for the file. One accident report that might be used is shown below.

ACCIDENT REPORT

1. Name of school ____________________ Location ________
2. Name of pupil ____________________ Birth ________ Grade ____
3. Address ____________________ Telephone ________
4. Parent or guardian ____________________
5. Date of accident ____________________ Time of accident ____
6. Character of injury (be specific) ____________________
7. Teacher's complete statement of how the accident happened?
8. If accident occurred on a machine, were guards in place? ________
9. Names of two eyewitnesses to accident?

    ____________________ (name) ____________________ (address)

    ____________________ (name) ____________________ (address)

10. Who rendered first aid? ____________________ Position ________
11. Was the injured pupil sent (a) back to class? ________ (b) home? ____ (c) private physician? ____ (d) hospital? ________
12. Name and address of doctor or hospital that gave treatment AT PARENT'S EXPENSE: ____________________

Signature ____________________ Instructor

Signature ____________________ Principal

The American National Standards of safety color code for marking physical hazards are as follows:

RED

Red shall be the basic color for the identification of:
(1) fire protection equipment and apparatus
(2) danger
(3) stop

Suggested Applications

"Fire Protection Equipment"

Fire exit signs
Fire alarm boxes
Fire blanket boxes
Fire buckets or pails
Fire extinguishers
Fire hose locations
Fire hydrants
Fire pumps
Fire sirens
Post indicator valves for sprinkler systems
Sprinkler piping

"Danger"

Safety cans or other portable containers of flammable liquids having a flash point at or below 80°F (open cup test); red lights shall be provided at barricades, at temporary obstructions and on temporary construction; danger signs

"Stop"

Emergency stop bars on hazardous machines, and stop buttons or electrical switches used for emergency stopping of machinery.

ORANGE

Orange shall be used as the basic color to designate dangerous parts of, and or hazards:
(1) machines or energized equipment which may cut, crush, shock, or otherwise cause injury
(2) when enclosure doors are open or when gear, belt or other guards around moving equipment are open or removed.

Suggested Applications

Inside of movable guards
Safety starting buttons
Inside of transmission guards for gears
Pulleys, chains, etc.
Exposed parts (edges only) of pulleys, gears, rollers, cutting devices, power jaws, etc.

YELLOW

Yellow shall be the basic color for designating caution and for marking physical hazards such as striking against, stumbling, falling, tripping, and "caught in between." Solid yellow, yellow and black stripes, yellow and black checks (or yellow with suitable contrasting background) should be used interchangeably in the combination which will create the best attention in the particular environment.

Suggested Applications

Construction equipment, i.e., bulldozers, tractors, carryalls, etc.
Corner markers for storage piles
Coverings or guards for guy wires
Exposed and unguarded edges of platforms, pits and walls
Fixtures suspended from ceiling or walls which extend into normal operating areas
Handrails, guardrails, or top and bottom treads of stairways where caution is needed
Horizontal lips of vertically sliding counterbalanced elevator doors
Industrial locomotives
Lower pulley blocks and cranes
Markings for projections, doorways, traveling conveyors, low beams and pipes, the frames of elevator ways and elevator gates
Material handling equipment
Pillars, posts, or columns
Stripe along sides of freightcar-loading plates or runways
Vertical edge of horizontally sliding pairs of fire doors
Waste containers for explosives or highly combustible materials should have a yellow band, the width of which should not be more than one-third of the height of the can, around the container. "EXPLOSIVE, COMBUSTIBLE," the material in the container should be printed on the band in large red letters.
Caution signs
Piping systems containing dangerous materials
Warning against use of equipment under repair

GREEN

Green shall be used as the basic color for designating safety and the location of first aid equipment.

Suggested Applications

Safety bulletin boards
Gas masks
First-aid kits
First-aid dispensary
Stretchers
Safety deluge showers

BLACK, WHITE, OR COMBINATIONS OF BLACK AND WHITE

Black, white, or combinations of black and white shall be the basic colors for the designation of traffic and housekeeping workings.

Suggested Applications

Traffic:
- Dead ends of aisles or passageways
- Location and width of aisleways
- Stairways (risers, direction and border limit lines)
- Direction signs

Housekeeping:
- Location of refuse cans
- White corners for rooms or passageways
- Drinking fountains
- Food dispensing equipment
- Clean floor areas around first-aid, fire-fighting, or other emergency equipment

Additional Responsibilities of the Instructor

The instructor must keep the safety program operating. Without encouragement, it would probably stop. Instructors must continuously remind students of good housekeeping procedures, the proper use of tools and equipment, proper lighting, and ventilation. Students must be provided with fire extinguishers and taught how to use them. They must be taught the proper methods of handling and storing materials. They should be made aware of the proper use of eye and ear protection. They should be told safety facts, such as contact lens adhering to the retina of the eye when exposed to an arc flash.

These and many more safety facts must be kept in mind. A good way to keep up on safety laws and accident prevention is through the continuous building of a reference library or obtaining safety posters. Several of the publications that should be included in the reference library are as follows:

1. Teacher Liability in School Shop Accidents by Denis J. Kigin, Prakken Publications.

2. Industrial Accident Prevention by H. W. Heinrich, McGraw-Hill Book Company.

3. Accident Prevention Manual by Merle Strong.

4. Other publications may be obtained from OSHA or National Safety Council, 425 North Michigan Ave., Chicago, IL 60611.

GENERAL INFORMATION ON EYE PROTECTION

All eye protection equipment used in Texas educational institutions must meet the standards promulgated by the American National Standards Institute (ANSI). The most recent is ANSI Z87.1-1979.

Public and nonpublic schools are responsible for purchasing and providing eye protection devices. Teachers or other persons supervising the students in courses which are covered by the law have the duty and responsibility to see that the required eye protection is available and worn. To implement an effective safety program, it is recommended that each school form a safety committee charged with this responsibility.

In bid specifications and prior to delivery, teachers and administrators should require suppliers to certify in writing that their devices meet or exceed all requirements of the American National Standards Institute.

Protective Eyewear

Lenses: The lenses of industrial quality protective eyewear (plano or prescription) are thicker than standard lenses and manufactured to provide greater resistance and strength. Industrial safety lenses are marked with the manufacturer's monogram at the top of each lens. Industrial lenses are fitted to the front of the frame to prevent them from being pushed into the eyes in the event of impact.

Frames: ANSI Z87.1 quality lenses must be placed in industrial quality frames to meet safety standards. Industrial quality frames are made of special materials to provide strength and flame resistance. Safety frames are marked with the Z87 logo and the manufacturer's trademark.

Personal Eyewear

Lenses: Personal eye glasses must have impact-resistant lenses to comply with U. S. Food and Drug Administration standards. These lenses, however, do not meet ANSI Z87.1 safety thickness requirements; they can resist only the impact of a 5/8-inch diameter steel ball dropped from 50 inches as opposed to the Z87.1 test of a 1-inch ball dropped the same distance.

Frames: Personal eyewear can be mounted in any kind of frame without regard for design or strength.

Personal eyewear must not be worn in place of industrial quality safety glasses. Personal eyewear must be worn only in conjunction wtih an approved cover goggle. Personal (prescription) eyewear can be made to meet industrial standards; in such instances both the frames and lenses individually and combined must meet or exceed ANSI Z87.1 requirements.

Contact lenses are worn in many educational settings. However, when the educational environment entails exposure to chemical fumes, vapor, splashes, intense heat, molten metals, or very dusty atmosphere, contact lens use must be restricted.

Contact lenses themselves do not provide eye protection in the industrial sense. When permitted in eye hazardous areas, contact lenses should be worn only in conjunction with appropriate industrial eye protection which meets or exceeds all requirements of ANSI Z87.1-1979 or later revisions. Teachers should identify contact lens wearers to help assure appropriate emergency first aid should this become necessary and to ensure that adequate protection is worn in areas where eye hazard exists.

Phototropic (photochromic) lenses change depth of tint when exposed to varying degrees of ultraviolet light, such as daytime light conditions. These lenses do not comply with current ANSI Z87.1 requirements. Phototropic lenses must not be used indoors as a substitute for approved, industrial-quality eye protection because they do not meet indoor light transmission requirements for clear lenses, and they do not provide protection from hazardous ultraviolet or infrared radiation produced in certain shops and laboratory operations, such as welding or foundry work.

Posting of Eye Hazardous Areas

If an individual must wear tinted lenses, as prescribed by an opthalmic specialist, industrial-quality eye and face protective devices appropriate for the hazard involved shall also be worn. The entrance to all shops, laboratories, or other areas which require industrial quality eye protection should be posted with a sign indicating the requirements. In addition, machines, equipment or process areas and laboratories requiring operators to wear specific eye and face protection should be posted with warning signs.

Visitors must wear the protective devices that are required in the area. Extra devices should be available at all times to lend to visitors. Devices called "visitor's specs" do not meet ANSI standards.

Fitting and Maintenance

Safety eyewear must be fitted properly. It should be the responsibility of the person in charge of dispensing safety glasses or goggles to see that properly fitted and adjusted eyewear is provided for each individual. Lenses of eye protectors must be kept clean. Restricted vision due to dirty lenses is sometimes a contributing factor to accidents. Eye protective devices that are shared shall be disinfected between uses.

Cleaning and Disinfecting Procedures

The following cleaning and disinfecting procedures are recommended in the ANSI Z87.1. Manufacturers' instructions should also be checked as certain cleaners and cleaning tissues contain agents which may be harmful to plastic.

Thoroughly clean all surfaces with soap or suitable detergent and water. Carefully rinse all traces of soap or detergent.

Completely immerse the protector for 10 minutes in a solution of modified phenol, hypochlorite, quarternary ammonium compound or other disinfection reagent, in a strength specified by the manufacturer of the protective equipment at a room temperature of 20 degrees C(68°F). Remove protector from solution and suspend in a clean, dry place for air drying at room temperature or with heated air. Do not rinse because this will remove the residual effect of the disinfectant.

Ultraviolet disinfecting equipment may be utilized in conjunction with the preceding washing procedure when such equipment can be demonstrated to provide comparable disinfection. Spray type disinfection solutions and bactericides may be utilized when such pressurized spray solutions can be demonstrated to provide comparable disinfection with the immersion procedure outlined above.

Store dry devices in a clean, dust-proof container or area.

NOTE: Protectors showing need for extensive cleaning should be disassembled to the extent possible without tools, prior to the washing and disinfection prodecure. Replace defective parts with new ones. Pitted and scratched lenses may reduce vision and also, along witn wornout headbands, seriously reduce protection.

Emergency facilities for quick eye drenching in case of chemical exposure should be available. Students should be trained as to their location and use. All eye wash equipment, whether faucet of wall-mounted or portable, should meet ANSI standards.

Activities That Need Eye Protection

Industrial Arts, Trade, Industrial, Technical and Agricultural Shop/Laboratory. Eye protection devices are required in all laboratories and shops. Safety spectacles with side shields are the recommended basic minimal requirement for all laboratory and shop activities. In specialized agricultural activities, appropriate eye protection devices should be selected from the chart on page 22.

First Aid

For Eye Injuries before Competent Medical Help is Obtained. No matter how minor the injury, professional medical treatment must be obtained as soon as possible, after first aid procedures have been followed. WARNING: If victim is wearing contact lenses, they should be removed only by persons properly trained or educated to do so.

Chemical Splashes. Get water onto injured area of eyes or skin immediately. The first 10 seconds following exposure to chemicals or acids are crucial.

If the victim is wearing contact lenses, remove them. Flood the eye with water immediately, continuously, and gently for at least 15 minutes. Use eyewash fountain or other appropriate source of aerated water or hold head under faucet or pour water into the eye using any clean container. Keep eyelids open as wide as possible while flushing with water.

Do not use an eye cup. Do not bandage the eye or apply salves, ointments, or oils.

Do take victim to physician after exposed area has been flushed with water, and advise doctor which chemical caused the injury.

Blows to the Eye

NOTE: Discoloration (black eye) could mean internal damage to eyes.

Do apply cold compresses immediately, for 15 minutes; again each hour as needed to reduce pain and swelling.

Do seek professional medical treatment as soon as possible.

Cuts and Punctures of the Eye and Eyelid

Do bandage lightly.

Do not wash eye with water.

Do not try to remove an object imbedded in the eye.

Do seek professional medical treatment as soon as possible.

Specks in the Eye

Do lift upper eyelid outward and down over the lower lid.

Do let tears wash out speck or particle.

Do, if particle doesn't wash out, keep eye closed, bandage lightly, and see a doctor.

Do not rub the eye.

Do seek professional medical treatment as soon as possible.

NOTE: Spray containers are an increasing source of chemical eye injury compounded by the force of contact. Whether containing caustics or "irritants," spray containers must be carefully used with proper instruction and supervision.

NOTE: It is recommended the eye-wash facilities be readily available, accessible, and appropriately marked for science and chemistry laboratories.

RECOMMENDED EYE PROTECTION FOR SPECIFIC ACTIVITIES

ACTIVITY OR OPERATION	EYE HAZARDS	EYE PROTECTIVE DEVICE(S)
AGRICULTURE		
General shop/laboratory operations (power, carpentry, electricity, metal work, woodworking, masonry, etc.)	Flying chips, dust, particles, and objects	Spectacles with attached sideshields or dust goggles**
Lubricating, spray painting, steam and solvent cleaning, finishing materials, solvents	Grease, hot steam, mists, splashing liquids	Chemical goggles
Battery servicing	Acid, sparks, explosion	Chemical goggles
General Farm Activities (Production Agriculture)	Flying dust, chaff	Spectacles with attached sideshields or dust goggles**
Agricultural chemicals-preparation, application and handling, especially with Anhydrous Ammonia	Splashing, mists	Chemical goggles
AUTOBODY		
Body preparation	Flying particles	Spectacles with attached sideshields or dust goggles**
Painting, mixing and chemical preparation	Splashing, mists	Chemical goggles
AUTO/POWER MECHANICS		
General operations	Flying chips, particles, dust	Spectacles with attached sideshields or dust goggles**
Lubricating, spray painting, steam and solvent cleaning	Grease, hot steam, mists, splashing	Chemical goggles
Battery servicing	Acid, sparks, explosion	Chemical goggles
CARPENTRY		
General operations	Flying chips, particles, objects	Spectacles with attached sideshields or dust goggles**
Chemicals, solvents	Splashing, mists	Chemical goggles
CERAMICS/ENAMELING		
Kiln firing, dry mixing, glass fritting, throwing	Clay and glaze particles, dust and explosion (firing)	Spectacles with attached sideshields or dust goggles**
COMMERCIAL ART		
Air brush, spray painting, chemical mixing, solvents, photographic solutions	Pressurized sprays	Chemical goggles

ACTIVITY OR OPERATION	EYE HAZARDS	EYE PROTECTIVE DEVICE(S)
COMMERCIAL FOODS		
Food frying	Hot grease splashing	Chemical goggles
Equipment cleaning agents (i.e. oven cleaners, degreasers)	Splashing, pressurized sprays	Chemical goggles
Commercial Sewing or Needle Trades, Upholstering	Needle breaking, flying objects, pressing steam	Spectacles with attached sideshields or dust goggles, chemical goggles
Commercial Housekeeping	Flying objects, splashing, pressurized sprays	Chemical goggles spectacles with attached sideshields or dust goggles
ELECTRICITY/ELECTRONICS		
General operations	Flying chips, solder splash, breaking glass	Spectacles with attached sideshields or dust goggles
Cathode tube servicing	Implosion, flying glass	Spectacles with attached sideshields or dust goggles with face shield
Chemical etching	Acid splashing	Chemical goggles
FOUNDRY		
Core and moldmaking, chipping, grinding, general operations	Chips, flying particles	Spectacles with attached sideshields
Heating, melting and pouring metal	Splashing, sputtering	Goggles with tinted plastic lens and full face shield
GRAPHIC ARTS		
Cutting, stitching, drilling	Flying objects	Spectacles with attached sideshields or dust goggles
Chemical mixing, solvents	Splashing	Chemical goggles
HOME ECONOMICS		
Food frying	Flying hot grease	Chemical goggles
Chemical cleaners	Splashing, mists, pressurized sprays	Chemical goggles
Sewing	Needle breaking, flying objects	Spectacles with attached sideshields or dust goggles
JEWELRY/ART METAL		
Silver soldering, chasing and smelting, hammering	Sputtering metal, sparks, flying objects	Dust goggles
LEATHERWORK		
Carving, stamping, cementing, buffing	Flying particles	Spectacles with attached sideshields or dust goggles
MASONRY/MOSAIC TILE		
Cutting, grinding, chipping	Flying chips, particles and dust	Spectacles with attached sideshields or dust goggles
Acid or cleaning solutions	Splashing	Chemical goggles

ACTIVITY OR OPERATION	EYE HAZARDS	EYE PROTECTIVE DEVICE(S)
METAL WORKING		
General operations	Flying chips, particles, dust, and objects	Spectacles with attached sideshields or dust goggles **
Pickling, etching, solvents	Splashing, mists	Chemical goggles
PLASTICS		
General operations	Flying chips, particles, dust	Spectacles with attached sideshields or dust goggles
Extruding, heating, pouring	Splashing	Chemical goggles
SCIENCE		
Chemical handling, experimenting, glass handling, dissecting, heating	Splashing, flying particles	Chemical goggles
Laser experiments	Severe retinal burns, operators and observers must be protected	Eye protection devices which are in compliance with ANSI Z136.1-1980
STAGECRAFT		
General operations	Flying chips, particles, dust and objects	Spectacles with attached sideshields or dust goggles **
Chemicals, solvents, finishing materials	Splashing, pressurized sprays	Chemical goggles
SPORTS		
Handball, Squash	Ball, racquet or blow	Sports eye protector
Racquetball, Tennis	Ball, racquet or blow	Sports eye protector
Hockey	Ball, racquet or blow	Helmet with eye/face shield
WELDING		
Electric arc	Welding flash, sparks, sputtering, molten metal, air bubble explosions	Welding helmet with filter lens over safety spectacles with attached sideshields
Gas welding, cutting, burning and metalizing	Flying sparks and metal	Welding goggles over safety spectacles with attached sideshields
Chipping, grinding	Flying chips, slag and particles	Spectacles with attached sideshields
WOODWORKING		
General operations	Flying chips, particles, dust and objects	Spectacles with attached sideshields
Chemicals, solvents, finishing materials	Splashing, pressurized sprays	Chemical goggles

**add face shield for severe exposure

RESOURCE MATERIAL ON EYE PROTECTION

The Wise Owl Club of America is an incentive program designed to reduce costly eye injuries and loss of sight by encouraging the widespread use of proper eye protection, sponsored by the National Society to Prevent Blindness and its state affiliates, including the Texas Society to Prevent Blindness. The Wise Owl Club awards membership to those who have saved their sight by wearing proper eye protection at the time of an accident.

A Wise Owl Club Chapter may be established simply by completing and mailing the application form. There is no charge for schools to enroll, but the school is expected to forward for approval to the Society a duly authenticated record of any employees or students who, in accident situations, prevented eye injury or loss of vision through wearing eye protection. The protective eyewear need not be damaged by the accident; what is important is that eye damage or loss of sight was prevented.

There is also a "special citation" membership for students and employees who save their sight on two or more occasions. An "honorary" membership is offered to the employee or student whose eyesight was saved through the use of protective eyewear in connection with an accident away from work or school.

Eye Safety Films/Publications

A variety of eye safety publications, films, and posters are available through the Texas Society to Prevent Blindness. They can add a new dimension to eye safety programs, and educators are encouraged to take advantage of these resource materials.

Publications

Single copies free--charges for quantity orders

20 QUESTIONS ON EYE SAFETY--Answers the most often asked questions about the use of safety eyewear. ($4.00 per 100)

FIRST AID FOR EYE EMERGENCIES--A sticker for first-aid cabinets and other pertinent locations. ($2.00 per 100)

EYE SAFETY IS NO ACCIDENT--Describes places and activities where most eye injuries occur; gives precautionary and protective eyewear information. ($8.00 per 100)

HOW TO JUMP A CAR SAFELY--Vinyl auto battery sticker. (25¢ each - $10.00 per 100)

BLINDING FACTS ABOUT EYE SAFETY ON THE FARM--Preventing agriculture-related injuries. (No charge)

THE WISE OWL CLUB OF AMERICA--Provides details on chapters and individual memberships in the internationally recognized Prevent Blindness eye safety incentive plan for industry and schools.

Films

The following 16mm films are available through the Texas Society to Prevent Blindness. There is no charge for borrowing the films; purchase price is as listed.

THE EYES HAVE IT!--For early elementary grade audiences; marionettes demonstrate eye safety at home and school. 8 minutes. ($100.00) Supplementary teacher's packet includes guide and spirit masters for classroom activities. Grades K-4. $2.00

DON'T PUSH YOUR LUCK--Re-creates the accident that blinded a man; shows the resulting pain and loss suffered by the victim and his family. 16 minutes. ($240)

AN OPTION TO SEE--Encourages students in grades 7 through 12 to use safety eyewear in labs and shops. 17 minutes. ($100.00) Supplementary teacher/student packet includes the instructor's guide, poster, overhead transparencies, 11 spirit masters for classroom activity, first aid sticker. $3.95

HOW MUCH ARE YOUR EYES WORTH?--Illustrates different types of eye protection and their proper use. 12 minutes. ($240)

THE SHIELD--Tells the true stories of some Wise Owl Club members and how safety glasses protected their eyes from serious injury. 13 minutes.

IT'S STILL UP TO YOU--Revised version of "It's Up to You," the breakthrough film on eye safety; pulls no punches as it shows the agony a preventable accident can cause. 11 minutes. ($240)

EYE AND FACE PROTECTION IN CHEMICAL LABORATORIES--Shows the violence of chemical explosions and their danger to person and property, and how the laboratory can be made safe. Available in two lengths: a 22 minute version recommended for chemistry-research personnel, and a 13½ minute version for students and general audiences. (long: $150, short: $120)

FOR THE REST OF YOUR LIFE--Demonstrates inherently dangerous properties of anhydrous ammonia and describes handling precautions. 16mm ($200)

Texas Eye Safety Law (A)

21:909 OF THE TEXAS EDUCATION CODE PROTECTIVE DEVICES IN PUBLIC SCHOOLS

(a) Industrial quality eye-protection devices shall be worn by every teacher and pupil in Texas participating in any of the following courses:
  (1) Vocational or industrial arts shops or laboratories involving experience with:
    (A) hot molten metals;
    (B) milling, sawing, turning, shaping, cutting or stamping of any solid materials;
    (C) heat treatment, tempering, or kiln firing of any metal or other materials;

(D) gas or electric arc welding; or
(E) caustic or explosive materials; or

(2) Chemical or combined chemical-physical laboratories involving caustic or explosive chemicals or hot liquids or solids.

(b) In this section, "industrial quality eye-protective devices" means devices meeting the standards set by the State Department of Health.

(c) The governing boards and administrators of Texas school districts offering any of the listed courses are responsible for furnishing free of charge or providing at cost to teachers and pupils participating in the courses the required eye-protective devices.

(d) Whenever an accident occurs during the conduct of any of the courses described in subsection (a) of this section, and an injury to the eye of a teacher or pupil results, the principal shall make full written report of the accident and injury to the State Department of Education. The department shall prescribe the form and content of the reports and shall maintain a file of all reports submitted.

Acts 1969, 61st Leg., p. 2938, ch. 889, 1, eff. Sept. 1. 1969

Selection of Shade Number for Welding Filter

The following is a guide for the selection of the proper shade numbers of filter lenses or plates used in welding. Shades more dense than those shown for various operations may be selected to suit the individual's needs.

NOTE: In gas welding or oxygen cutting where the torch produces a high yellow light, it is desirable to use a filter lens that absorbs the yellow or sodium line in the visible light of the operations (spectrum).

Welding Operations	Suggested Shade Number*
Shielded Metal-Arc Welding, up to 5/32 in. (4mm) electrodes	10
Shielded Metal-Arc Welding, 3/16 to 1/4 in. (4.8 to 6.4mm) electrodes	12
Shielded Metal-Arc Welding, over 1/4 in. (6.4mm) electrodes	14
Gas Metal-Arc Welding (Nonferrous)	11
Gas Metal-Arc Welding (Ferrous)	12
Gas Tungsten-Arc Welding	12
Atomic-Hydrogen Welding	12
Carbon Arc Welding	14
Torch Soldering	2
Torch Brazing	3 or 4
Light Cutting, up to 1 in. (25mm)	3 or 4
Medium Cutting, 1 to 6 in. (25 to 150mm)	4 or 5
Heavy Cutting, over 6 in. (150mm)	5 or 6
Gas Welding (Light) up to 1/8 in. (3.2mm)	4 or 5
Gas Welding (Medium) 1/8 to 1/2 in. (3.2 to 12.7mm)	5 or 6
Gas Welding (Heavy) over 1/2 in. (12.7mm)	6 or 8

*The choice of filter shade may be on the basis of visual acuity and may therefore vary widely from one individual to another, particularly under different current densities, materials, and welding processes. However, the degree of protection from radiant energy afforded by the filter plate or lens when chosen to allow visual acuity will still remain in excess of the needs of eye filter protection. Filter plate shades as low as shade 8 have proven suitably radiation-absorbent for protection from the arc welding processes.

Report of Eye Injury

To aid the Texas Education Agency in collecting data for establishing preventive standards for schools and development of a safety education curriculum, eye injuries should be reported within five days to the Texas Education Agency on a form similar to the one on the following page.

Information in this section on eye safety provided courtesy of the Texas Society to Prevent Blindness.

REPORT OF EYE INJURY FOR THE TEXAS EDUCATION AGENCY

____
District Name

____
School Name

____
Co. - Dist.#

1. Name of Injured______________________ _ Pupil _ Teacher _ Other (_______)

2. Sex_____Age_____Grade or Position______________________

3. Date of Accident______________________Time of Day________________

4. Time Lost Due to Accident______________________

5. Location of Accident: School________________Facility____________

6. Course Being Taught ______________________

7. Activity in Class______________________

8. Was Activity Supervised? ____Yes ____No

9. Name of Supervisor or Teacher______________________

10. Nature and Extent of Injury______________________

____

11. Cause of Accident______________________

12. Were Protective Eye Devices Worn? ____Yes ____No

____
Typed Name of Authorized School Official Telephone Date

____
Signature of Authorized School Official

Examples of Safety Lesson Plans

Instructor's Lesson Plan Manipulative Skills or Related Information

SUBJECT:	
JOB (or operation):	General Safety Rules
AIM (or purpose):	To develop understanding of general laboratory safety rules and their application.
TOOLS AND EQUIPMENT:	
MATERIALS:	
TEACHING AIDS:	Transparencies, film, handout sheet, and test
REFERENCES:	

I. PREPARATION (of the learner)

1. Relate a personal experience of an accident caused by failure to observe safety rules.
2. Show film on safety.
3. Class discussion of film and how it relates to class safety.

II. PRESENTATION (of the skills):

Operations or Steps Instructional Topics	Key Points (things to remember to do or say)
1. Keep aisles clean	1. Chairs in place under tables 2. Pick up papers and other litter 3. Remove articles one might trip over
2. Wipe up spills	1. Wipe up at once any liquid, grease, or food particles 2. Use paper towels 3. Prevent falls 4. Keep area clean
3. Keep drawers and cabinet doors closed	1. Avoid bumps and bruises 2. Keep room orderly and neat in appearance 3. Avoid spilling things

Operations or Steps Instructional Topics	Key Points (things to remember to do or say)
	4. More sanitary 5. Things in cabinets and drawers stay clean
4. Use sturdy step stool for reaching high object	1. Avoid falls 2. Avoid dropping things 3. Avoid knocking down or breaking equipment
5. Turn off electrical equipment when not in use	1. Save electricity 2. Avoid overheating 3. Avoid fires 4. Avoid accidents
6. Disconnect cord by grasping plug	1. Prevent damage to wire 2. Avoid shocks
7. Do not operate machines without proper instructions	1. Avoid injury to yourself or others 2. Avoid damaging expensive equipment 3. Avoid waste of materials and supplies

III. APPLICATION (practice by learner under close supervision) Drills, Illustration, Oral, Questions, or Assignment

Divide up into buzz groups and have each group take one or two rules and see how many things they can remember that apply to that rule. Then report to the class after a few minutes.

IV. TEST (performance of skill to acceptable standards) Final check on students' comprehension of material presented

_____	1.	to prevent damage to wires	a.	turn off electrical equipment when not in use
_____	2.	to save electricity	b.	disconnect cord by grasping plug
_____	3.	to avoid damaging expensive equipment	c.	keep cabinet doors and drawers closed
____	4.	to avoid bumps and bruises	d.	have proper instruction before operating machines
			e.	use paper towels to wipe up spills.

V. SUMMARY (Re-emphasize key points or topics)

1. Review the general safety rules.
2. Review and correct the test.
3. Discuss the importance of all safety rules.

The Next Lesson Is:

Instructor's Lesson Plan Manipulative Skills
or Related Information

SUBJECT:
JOB (or operation): General Safety Rules

AIM (or purpose): To demonstrate how horseplay and wearing the wrong type of clothing in the lab might be the cause of an accident.

TOOLS AND EQUIPMENT:

MATERIALS:

TEACHING AIDS: Two skits, handout sheets, cartoon pictures, tests

REFERENCES:

I. PREPARATION (of the learner)

Two skits acted out by the students to show the students some of the accidents that might happen from horseplay and some that might happen from wearing the wrong type of clothing in the lab. The dialogue for these skills will be prepared by the teacher and given out to the student actors.

II. PRESENTATION (of the skills):

Operations or Steps Instructional Topics	Key Points (things to remember to do or say)
1. Horseplay	1. Running 2. Teasing 3. Wrestling 4. Throwing 5. Talking 6. Touching 7. Distracting 8. Tripping 9. Keep legs of chair on floor Show cartoon pictures that depict each action.

2. Dress	1. Wear clean and easily cared for clothes 2. Wear comfortable, clean shoes 3. Do not wear loose fitting shoes 4. Do not wear garments with ribbons, bows, ruffles, or anything that can catch fire and burn or come in contact with moving parts of a machine
3. Jewelry	1. Wear no long dangling necklaces, bracelets, or earrings as they may become entangled in machinery 2. When working in the lab, remove all rings that may be caught by moving parts of machine
4. Hair	1. Wear hair back away from face, especially if it is long. This way it will not get caught in the machinery

III. APPLICATION (practice by learner under close supervision) Drills, Illustration, Oral, Questions, or Assignments

Have a discussion period about the safety rules that have been discussed. Let students suggest other safety rules that might be included with the ones that have been discussed.

IV. TEST (performance of skill to acceptable standards) Final check on students' comprehension of material presented

Safety Test

Circle the correct answer.

1. When dressing to come to lab, Mary chose:
   a. a full-sleeved, sheer dress with a full skirt.
   b. a neat wash-and-wear dress.
   c. a dress trimmed in ribbons and large bows.
2. For her jewelry, Mary chose:
   a. two long chain necklaces.
   b. five large rings.
   c. none at all.

3. Mary wore her long hair:
    a. combed back.
    b. hanging down over her shoulders.

Place a check mark by all the things listed below that might be horseplay.

_____ Running
_____ Working quietly in assigned area
_____ Tripping
_____ Talking quietly
_____ Sitting back on the back legs of the chair
_____ Doing assigned work
_____ Teasing
_____ Wrestling
_____ Reading an assignment
_____ Throwing things
_____ Touching others
_____ Distracting others

V. SUMMARY (Re-emphasize key points or topics)

1. Review the general safety rules.
2. Review and correct the test.
3. Discuss the importance of all safety rules.

The Next Lesson Is:

CHAPTER III

THE LEARNING PROCESS

The learning process in concerned with strengthening and weakening manipulative and behavioral reactions. Responses are initiated by one or more of the five senses. As students are subjected to different variations of the learning process, these reactions result in emphasis being placed on either or both of the manipulative or behavioral reaction of response. Through these, the learning process occurs.

Some Things the Teacher May Do to Motivate Students:

1. Explain exactly what the students are to learn.
2. Explain clearly how the thing to be learned will benefit them.
3. In teaching shop subjects, show the student samples or examples of the job to be learned.
4. Explain industrial applications of all technical information taught.
5. When feasible, provide for field trips, plan visitations, and the like as related to the training area.
6. Answer all pertinent questions on the subject; reject unrelated questions tactfully.
7. A certain amount of "showmanship" in teaching is a good interest stimulator.
8. Demonstrate the job with hands-on application.

How the Teacher May Help Maintain Interest in Instruction:

1. Organize the course so that the students progress gradually from the easier instructional units and lessons to the more difficult ones with a minimum of unsuccessful experiences and failures.
2. Adapt instruction to provide for individual differences in students.
3. Use a variety of methods and techniques in teaching a lesson. Audio-visual aids are effective in maintaining interest.
4. Provide for student activity and participation in each lesson.
5. Compliment the student when it is deserved; avoid criticizing or humiliating the individual.

6. Give recognition to outstanding achievement; publicize class activities.

7. Provide suitable activities or job assignments that will challenge the abilities of the advanced student.

8. Make it possible for the learner to attain early success.

9. Avoid situations which might cause the student annoyance, fear, or worry.

Some Things the Teacher Should Remember About the Development of Correct Habits

1. Assignments involving practice, drill, or exercise should have one definite purpose: to improve skill, precision, or craftmanship; to develop speed or ease of action, to reduce errors; to overcome fear; etc.

2. Mere repetition of acts is not enough in the development of correct habits by a learner. There must also be measurable improvement and the personal satisfaction that comes with it.

3. In general, improvement due to practice or "exercise" should be measurable and capable of being noted by the learner.

4. The amount of repetition required depends upon the ability of the learner and the intensity of the motivating forces.

5. The more often an act is repeated, the earlier it can be performed, and the sooner it will become an automatic action (habit).

PRINCIPLES OF MOTIVATION

Make Material Interesting

1. Make your teaching interesting and appealing.

2. Make the job seem real and worthwhile.

3. Show the relationship of the material to other things.

Make the Learners Aware of the Progress

1. Establish a concrete goal (i.e., something definite to work toward).

2. Let the students know what is expected of them.

3. Inform students of their progress.

4. Make effective use of individual and group competition without degrading the slow learner.
5. Show genuine interest in the progress and welfare of the students.
6. Give the students a chance to show their accomplishments.

Use Praise and Reproof

1. Use praise to encourage students.
2. Make both praise and reproof refer to specific aspects of a job.
3. Accompany reproof by praise for those aspects of the job that have been done well.
4. Always accompany reproof by a clear explanation or demonstration of what should be done.
5. Give reproof promptly and then consider the matter a closed incident.
6. Make use of local news media to publicize students' accomplishments.

Know Your Student

1. Make a home visit or take student home during the year and use the opportunity to meet the student's parents.
2. Listen to students' conversations to find out their problems and interests.
3. Get details of a student's background and home life.

INDIVIDUAL DIFFERENCES

Human beings differ in physical and mental make-up. Provisions must be made for these differences in the learning process.

How people differ	Why they differ	How differences show up	What the instructor can do about it
1. Ability	1. Inheritance 2. Education 3. Physical and Mental Condition	1. Accomplishment 2. Initiative 3. Mannerisms	1. Various assignments 2. Use of Responsibility
2. Looks	1. Inheritance 2. Deliberate plan	1. Physical Characteristics 2. Grooming and clothing	1. Stress personal grooming 2. Clothing standards
3. Interests	1. The fad 2. The peer group approval 3. Natural differences	1. Language 2. Interest in school and community activities	1. Jobs with same or similar operation 2. Capitalize on "Future Plans"
4. Family Background	1. Family attitude 2. Socio-economic status 3. Environment	1. Emotional stability 2. Values 3. Attitudes	1. Personal acceptance 2. Counseling 3. Discipline
5. Understanding	1. Observes 2. Listens 3. Thinks 4. Disciplined	1. Retention of theory 2. Slow to learn 3. Attitudes 4. Ability	1. Vary teaching methods 2. Group leaders
6. Learning	1. Family insistence 2. Natural inclination 3. Peer pressure 4. Discipline	1. Behavioral habits 2. Progress and accomplishment	1. Vary amounts of work 2. Vary difficulty of work 3. Be flexible

CHAPTER IV

PREPARATION FOR TEACHING

Preparation to teach must start with the teacher. The example the instructors set will control behavioral patterns of the students in all their activities. Some of the things an instructor must continually exhibit are listed below.

BASIC NEEDS

1. Competence in the subject being taught
2. Mastery of the techniques of instruction
3. Resourcefulness, creativity, and flexibility
4. The habit of evaluation
5. The desire to teach
6. Ability to develop good personal relationships
7. Ethical standards and values
8. Leadership qualities
9. Ability to control classes

A CHALLENGE--AM I A GOOD TEACHER?

The following checklist may be used by teachers as a self-evaluation to identify weak points of their instruction. Once identified, these weak points may be strengthened and improved upon by the instructor.

Teaching Shop Work

1. Do I enforce safety rules?
2. Do I have on hand a complete set of job sheets for each job and for each student?
3. Are the students working successfully from the job sheets?
4. Do I have on hand a display of correct samples of each job?
5. Do I demonstrate doing the job correctly?
6. Do I systematically check each student's work?
7. Do I require accuracy in performance?

8. Do I distribute my time among students on the basis of their needs?

9. Am I teaching the job as it should be done in industry?

Teaching Related Work

1. Is my related work necessary for doing the job, or is it "just nice to know"?

2. Is the job instruction sheet more than an exercise sheet? Are the students using these sheets successfully or are instructional materials stored away in a drawer?

3. Am I using class time effectively to teach the students, either individually or through a well-organized oral presentation? Is my time spent lecturing, sitting at my desk, or walking idly about the room?

4. Am I stimulating the initiative of students through questions, or am I telling everything and teaching nothing?

5. Do I use a quiet, conversational tone of voice?

6. Am I utilizing the best material available for visual instruction--charts, diagrams, pictures, materials, and tools from the shop?

7. Do I use good questioning techniques?

8. Do I require students to keep notes?

9. Do I select pertinent reading material and make interesting assignments?

10. Do I plan my daily teaching strategies and make corrections after I have tested them during class for future reference or use?

Appearance of Room

1. Is the furniture and equipment arranged uniformly?

2. Are there pictures, charts, diagrams on the walls?

3. Are there shades or blinds on the windows? In what condition are these items?

4. Is the room cluttered with coats and hats on wall charts, on tables, on window ledges; bundles or other objects on tops of lockers?

5. Is my blackboard work informative?

6. Is my desk clear of litter?

7. Is my supply closet orderly?

8. Have I an artistic display of either shop projects or class work?

9. Are cabinets and lockers arranged neatly when doors are left open?

10. Are the stock rooms kept properly arranged?

11. In what condition do I leave the entire shop and related subjects room after the last class of the day has been dismissed?

12. Are students' work and activities displayed?

13. Are the VOCT creed, charter, motto, and pledge displayed?

Records and Reports

1. Have I an up-to-date cumulative record of progress completely filled out for every student?

2. Have I an individual record for each student indicating each job completed?

3. Have I a chart indicating the progress of each student?

4. Are my records so arranged that I can get any desired information without loss of time and energy?

5. Are my reports always prepared accurately, legibly, and on time?

6. Do I keep an accurate inventory?

7. Do I read all administrative reports thoroughly?

8. Do I keep up with past students as to location, jobs, and education?

9. Does each student have a Social Security number and if not, has the student been provided a Social Security application form?

Vocational Guidance

1. Have I recorded any noteworthy results in guiding students vocationally?

2. Do I counsel with students concerning the selection of an occupation?

3. Do I advise students on trade standards, physical requirements, and working conditions?

4. Am I interested in knowing where students are working after completing my course?

5. Do I prepare adequate publicity to attract students to my shop?

6. Do I cooperate willingly with the counselors in the school?

7. Do I take the trouble to "sell" my program to other teachers?

Cooperation and Executive Ability

1. Am I pleasant when dealing with other teachers and with supervisors?

2. Am I rendering any special service to the school as a whole?

3. Do I submit required reports punctually and without second requests or follow-up of supervisors?

4. Do I offer constructive suggestions?

5. Do I exchange ideas with people in industry, other teachers, parents, and students?

6. Am I willing to do my share of extracurricular work?

7. Do I work well with students, teachers, and supervisors?

Attendance and Punctuality of Students

1. Is my work interesting enough to draw students to it regularly?

2. Is my work interesting enough to induce students to be punctual?

3. Am I always on the job at least 15 minutes before students report?

Self-Improvement

1. Am I benefitting from the criticism of supervisors?

2. Am I reading and studying systematically?

3. Do I have a plan for summer school or other professional improvement?

4. Do I attend professional meetings regularly?

5. Am I a member of teachers' associations?

6. Am I up-to-date on my trade?

7. Do I visit other schools and industrial shops?

8. Do I read trade journals regularly?

9. Do I participate in my professional organizations?

SELF EVALUATION

Evaluating oneself is an important part of teaching. Improvement is made through finding one's weak areas and improving upon them.

Emotional Stability

1. Do I conduct myself in such a way that I bring out the best in those with whom I come into contact each day?
2. Am I reasonable, fair, and open-minded?
3. Am I tactful?
4. Am I gentle yet firm?
5. Do I meet difficult situations with confidence and poise?
6. Do I accept responsibility?
7. Do I adjust easily to change?
8. Do I cooperate with my colleagues?
9. Am I calm and sympathetic in discussing a student's problems with his/her parents?
10. Do I give myself a fair chance for serenity by getting adequate rest and recreation and giving sufficient attention to my health?

Sincere Interest

1. Do I respect individual personality?
2. Do I help each student develop a sense of responsibility?
3. Do I challenge each student to think clearly and accurately?
4. Am I interested in the physical health of each student?
5. Do I try to help students develop to their greatest potentials?
6. Do I provide activities which can be accomplished with satisfaction by the slow learner?
7. Do I challenge the capable learner to do superior work?
8. Do I keep abreast of developments in research which help me to understand individual needs more fully?

9. Am I informed about each child's home and environment?

10. Do I take an active interest in the out-of-classroom life of each child?

Professional Growth

1. Do I take genuine pride in my work as a teacher?

2. Do I have a high regard for the teaching profession?

3. Do I willingly join, loyally support, and actively participate in my professional associations?

4. Do I identify myself with the local classroom teachers' organization?

5. Do I support the department which represents my field of specialization?

6. Do I read the state and national trade and professional magazines regularly?

7. Do I write to professional journals and state educational magazines to let the editors know my comments and reactions to articles?

8. Do I keep abreast of current developments and trends in my teaching area?

9. Do I participate in in-service education programs and at least once every five years pursue advanced university studies?

10. Do I actively participate in at least one civic organization in my community?

11. Do I make some cultural contribution to my community, my state, and the nation?

12. Do I read more than the front-page items in the daily newspaper?

13. Do I read the editorials and the education news?

14. Do I regularly watch and listen to news commentators?

15. Do I help my students to understand and appreciate the cultures and traditions of all people?

16. Am I helping my students develop international understanding?

17. Do I encourage my students to study and discuss current affairs?

STUDENT EXPECTATIONS

During the school year, the students expect to receive the following from their class and instructor:

1. Understanding of their problems
2. Clear instructions or directions--what is expected of them
3. Adequate rating or grade--fair in comparison with others
4. Opportunity to learn, develop, and use skills and knowledge
5. Recognition--how they are doing
6. Fair treatment
7. Dependable instruction and supervision
8. Information--the why of their assignments
9. Interesting and worthwhile class work
10. Freedom of expression
11. Protection from humiliation
12. Pleasant and safe working conditions in shop or class
13. Preparation for security--personal and economic
14. Congenial fellow class members
15. Consideration as an individual
16. Development of leadership skills
17. Development of salable skills
18. Development of safe work habits

WHAT IT MEANS TO UNDERSTAND YOUNG PEOPLE

The PERFECT TEACHER (or the kind of attitude, knowledge, and habits believed to characterize teachers who understand young people):

1. Teachers who understand youngsters think of their behavior as being caused. They see a youngster's present actions as based upon past experience, shaped by present situations and hopes for the future.
2. A second characteristic of teachers who understand youngsters is that they are able to accept all youngsters emotionally and to respect and value them as human beings. However, teachers do not have to accept some of their standards or morals.
3. They recognize that every person is unique and, therefore, they constantly seek information about each of their pupils that will enable them to know the factors that are influencing their development and behavior.
4. They know the common developmental tasks that all young people face during the phases of their growth.
5. They know the more important generalizations that describe and explain human growth, development, motivation, learning, and behavior.
6. They are accustomed to methods of gathering and organizing relevant information about a young person and use this pertinent data as the basis for helping the youngster cope with problems in growing up.

STUDENT-TEACHER RELATIONSHIPS

Be aware of and sensitive to what a student wants:

1. Teen-agers want to be accepted.
2. They want fair treatment.
3. They want a feeling of success.
4. They want independence in making decisions.
5. They want adult sympathetic understanding.
6. They want adult companionship.

CHAPTER V

METHODS OF INSTRUCTION

Teaching in its simplest term is helping others to learn. It may be helping others to learn to do something or understand something.

When have individuals learned?

1. When they can do something they could not do before.
2. When they understand something they did not understand before.
3. When they have changed their feelings, attitudes, or ideas about something.

When has the instructor taught?

1. When the instructor has caused the learners to be able to do something they could not do before.
2. When the instructor has caused the learners to understand something they did not understand before.
3. When the instructor has caused others to change their feelings, attitudes, or ideas about something.
4. Unless one or more of these things has taken place, the instructor has not taught.

The Nature of Learning

Learning involves using the mind. The instructor cannot do this for the learner. It is not a matter of transferring what the instructor knows and can do into the minds and hands of the learner. Something must happen within the learner. The individual must pass through some active experience which will change a way of thinking and acting. Learning is active, not passive.

It is the business of the instructor to plan the experiences of the learners that will lead as quickly and directly as possible to the mastery of the desired skills and understandings. It should be remembered that what the instructor says and does is important only as it affects what the learner can do.

It is possible for the instructor to put out a great deal of effort and still not be teaching. It is only when these tools, together with other tools or methods of instruction, are combined and used properly that effective results are obtained in this job of teaching.

STEPS IN GOOD INSTRUCTION

Make Detailed Preparation

1. Have all necessary equipment ready before the class starts.
2. Use a "lesson plan."
3. Have a clear and specific purpose for your lesson.
4. Have a list of materials needed.
5. Have a teaching routine outlined that shows the order in which units are to be taught.
6. Plan beforehand when and how instructional aids are to be used.
7. Make plans beforehand for practice periods (drills).
8. Know the level of skill expected of students by the end of the session.
9. Provide for a summary and review at the end of the lesson.

Make an Effective Presentation Through Explanation

1. Make the fullest possible use of instructional aids (models, charts, and films).
2. Make your own instructional aids when they are not available.
3. Coordinate the aid with teaching but do not use it as a substitute for teaching.

Make an Effective Presentation Through Demonstration

1. First, show the whole operation briefly.
2. Then, show it one step at a time.
3. Always explain what is being done.
4. Always explain why it is being done as it is.
5. Have in mind a clear-cut, step-by-step breakdown of the operation.
6. Go slowly so that all steps of the operation can be clearly seen and understood by the students.
7. Emphasize "key points."

8. Demonstrate exactly how the job should be done.

9. Repeat the operation as a whole and step-by-step.

Make an Effective Presentation Through Questioning

1. Make the questions friendly.
2. Use questions, pausing to allow time for the students to think, to check the progress of students which may, in turn, be used to guide and pace one's instruction.
3. Ask questions before indicating the person to answer them.
4. Do not become impatient for an answer. Give the students time to think before answering.

Have the Students Try Out the Skills They Have Learned

1. Make certain that the students perform the correct way during early practice.
2. Stay with the students after correcting them long enough to ensure that the right way has "taken hold."
3. Emphasize accuracy rather than speed during early practice.
4. Have the students become familiar with complex operations one step at a time.
5. Have students explain their performance during early practice.

Follow Through to Check on the Skills Students Have Learned

1. Check the students' performance often to see that they do not develop bad habits.
2. See that they do not "level off" too soon in their improvements.
3. Make certain that they develop the fine points of the job.

Summarize or Review

1. This takes place throughout the lesson to develop understanding of what is being taught.
2. Reorganize and strengthen weak points.

PRINCIPLES OF GOOD INSTRUCTION

Know Your Subject

1. Know your work well enough to gain the students' confidence.
2. Keep informed on newest developments.
3. Know which material is most difficult for students.

Know Your Students

1. Find out as much about them as you can before the class starts.
2. Know how your material fits in with their experience, needs, and interests.

Be Prepared

1. Know exactly what you are going to cover.
2. Know how and in what order you intend to teach your material.

Arouse and Maintain Interest

1. Show enthusiasm for your subject.
2. Use frequent questions.
3. Make your teaching personal.
4. Use showmanship; e.g., variety and unusual methods of presentation.
5. Tell stories and actual experiences.

Motivate the Learners

1. Make them want to learn.
2. Show them why the things you teach are important.
3. Show them the future need and use of what they learn.

Follow a Clear-Cut Organization

1. Give a preview at the beginning of each lesson.
2. Present ideas one at a time in a logical step-by-step order.
3. Keep together topics that are related.

4. Use summaries at various points in the discussion and at the end of the lesson.

5. Briefly outline the content of the following lesson at the end of each section.

Keep Things Simple

1. Use simple words and short sentences.

2. Introduce technical terms gradually and explain what they mean.

3. Tie the material together with everyday experience and use familiar examples.

Pace Your Presentation Properly

1. Go slowly enough for the students to understand the material.

2. Change the pace according to the difficulty of the material.

Use Emphasis

1. Repeat for emphasis.

2. Use questions to make important points stand out.

3. Use the voice to give emphasis (such as pausing before and after all important points, increasing volume, and talking slowly).

Use Humor Occasionally

1. Enliven your teaching from time to time with humor.

2. Choose humorous stories or comments that add to the interest of the lesson.

Make Effective Use of Your Voice

1. Speak clearly.

2. Pronounce all words correctly.

3. Speak loudly enough.

4. Speak slowly enough.

5. Vary the sound of your voice to avoid monotony.

6. Speak with authority and confidence.

7. Direct your voice to the class rather than to the blackboard or equipment.

8. Avoid distracting speech mannerisms (such as "uh, uh..." and "now, uh...").

HOW TO GET READY TO INSTRUCT

Have a Timetable

1. Include how much skill you expect the student to have and by what date.
2. Keep students posted on their progress.

Break Down the Job

1. List the important steps.
2. Pick out the key points. (Safety is always a key point.)
3. Analyze the subject matter.
4. Determine learning objectives.
5. Make a complete lesson plan.
6. Rehearse the lesson.

Have Everything Ready

1. Have the right equipment, materials, and supplies.

Have the Workplace Properly Arranged

1. Arrange the workplace just as the worker would be expected to keep it.

FOURTEEN STEPS IN CLASSROOM TEACHING

1. Before the class begins, distribute or have easily available reference material, notebooks, sharpened pencils, and all other supplies that will be needed.

2. Get the students' attention and get them settled down. Call roll if the class is large.

3. Make all announcements or comments not pertaining to the day's lesson before starting the class.

4. Review yesterday's lesson and tie it in with today's lesson.

5. Introduce the lesson and motivate the students. Motivate continuously throughout the lesson.

6. Have the study questions on the board before class starts; introduce and motivate each question. You may prefer to develop study questions on the board by the use of the conference method. Write on the board the project, the teaching unit, and the reference and pages.

7. Conduct a study period or use one of the other methods to inform students about the content of the lesson. Supervise the study--do not sit down or work on anything else while supervising the study. The study period should last over 20 minutes.

8. Follow the study period or the other method used with a class discussion.

9. Use the study questions on the board as a discussion guide.

10. See that all students participate in the discussion.

11. Be sure each statement made by each student is clearly understood by all others in the class. Repeat or have them repeated for emphasis.

12. Start the answers to each study question by writing on the board a phrase with key words so that complete thoughts may be summarized. Review the answers to one question before putting the next one on the board. Usually ask another student to review the answer.

13. Be sure that each student takes notes of all key points of the lesson. Students should write in their notebooks everything the teacher puts on the board during discussion. The teacher should put on the board all materials that the students should have in their notebooks.

14. Close the class with a brief oral review of the highlights of the lesson. The teacher should dismiss the class soon after the bell rings. The bell is only a warning that the class should be dismissed.

METHODS OF TEACHING

1. Lecture--Relating information about a particular subject to a group of students. Keep the lecture short and to the point (15-20 min.). Make the lecture as interesting as possible. Lecturing is not one of the better methods of teaching, since the CVAE student has a limited attention span.

2. Testing--A method of evaluating the presentation of subject matter or materials and determining the comprehension of the learner.

3. Demonstration--A manipulative activity performed in the presence of others to clarify, describe, or explain a point. Adjust length to the attention span of the learner.

4. Illustration--Use of visual aids, such as slides, posters, filmstrips, etc., for easier understanding and simplification of construction operation. Use these as an aid to teaching but not as a substitute for it.

5. Role Playing--The relation or imitation of real life experience common to the problem at hand.

6. Experiment--An orderly sequence of events in an operation under controlled conditions to help one seek out an answer to a problem or to prove a point.

7. Discussion--A consideration of a topic or problem with free participation of learners, but controlled by the leader.

8. Conference--A meeting of two or more persons for the purpose of discussing or solving a problem.

9. Recitation--The oral presentation of subject matter in a planned, orderly manner.

10. Questioning--A method used to encourage the learners to use their sense of recollection, association, evaluation, and judgment .

11. Practical Application--Hands-on performance by the learner with real equipment and materials under simulated occupations conditions. For the CVAE student, this method is the best of the teaching methods.

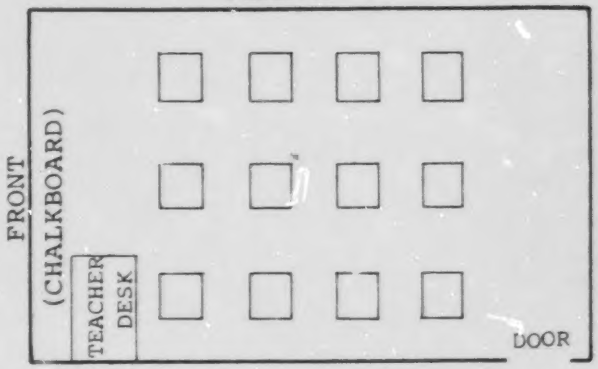
12. Supervised Study--Subject matter assigned by the instructor to be carried out under close supervision. It can be conducted in an individual or a group setting.

SUGGESTED CLASSROOM SEATING ARRANGEMENTS

Plan "A"

This seating arrangement is typical of most classroom settings. This arrangement is the least advantageous even though it is most used. In this setting the entire space is utilized by "furniture." The center row student vision to the chalkboard and demonstration area is blocked. Considering the utilization of space, this plan has the fewest desirable features.

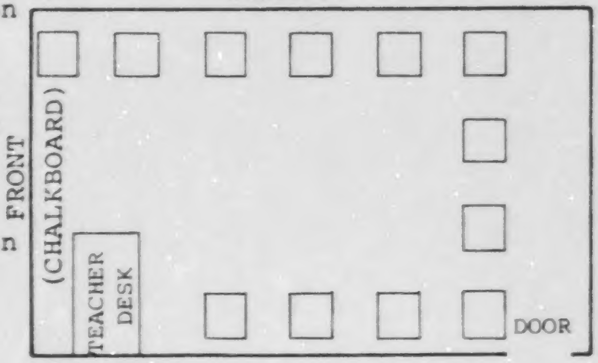
PLAN A



Plan "B"

This seating arrangement offers the most desireable features. The vision to the chalkboard and demonstration area is unobstructed. The classroom has an open effect with the instructor-to-student eye contact in direct line. The center area can be used with all desks facing center with the instructor's back toward the chalkboard. Wall areas are left open for supplemental charts, mock-ups, and training aids.

PLAN B

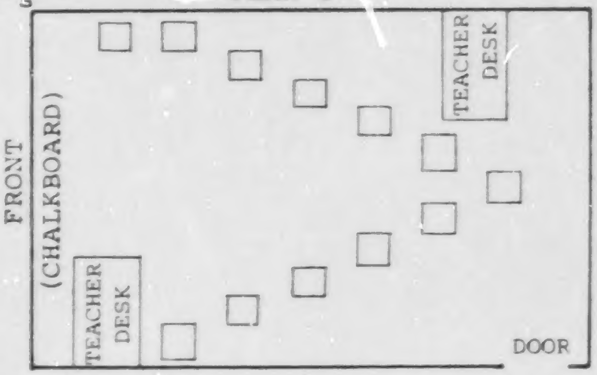


Plan "C"

This plan allows for direct eye contact with the chalkboard and demonstration area. This allows for an optional placement of the teacher's desk with the front being most desirable. The greatest disadvantage of this plan is the wasted floor space.

NOTE: The three student seating plans are offered for your consideration as a teacher. All may be used at various stages of your year, as they are needed to conform to various types of instruction.

PLAN C



CHAPTER VI

ORGANIZATION OF INSTRUCTIONAL MATERIALS

In order for you as an instructor to be assured that you are teaching your course in the most efficient manner, there are several things you must do. These are summarized in the nine steps that follow.

1. Analyze the trade and determine what skills and knowledge are required to hold a job in the trade.

2. Establish prerequisites for the course and select students.

3. Establish objectives for students to achieve in the program.

4. Organize course content in such a manner that students have an opportunity to meet the objectives. (Include jobs, projects, exercises, and other methods to do this.)

5. Prepare daily lesson plans and secure the instructional materials for teaching the course (supplementary instructional materials).

6. Establish an organizational system for lesson plans and instructional materials for easy reference and reorganization.

7. Teach the course in the most effective way.

8. Evaluate results of the teaching. This evaluation should be a dual one--evaluation of the individual students to determine their achievement in the course and evaluation of the total program to determine how well students perform upon completion of the program. Evaluation should identify areas of the instructional program which need strengthening.

9. Make needed improvements in the program. These improvements may be eliminating weaknesses identified when evaluating the program (Step 7), the addition of the instruction or innovations occuring in the trade, or deletion of obsolete information.

ANALYSIS OF A TRADE AREA

The vocational instructor is usually well informed in the particular subject area. The organization of this subject matter is very important in becoming an organized teacher. Much time is wasted in training programs because of excessive unimportant content, omission of important content, and improper emphasis. We can determine what to teach only after consideration of what the student is expected to achieve in the way of competencies necessary for successful employment at a given level.

Analysis is a technique to use in identifying and listing desired competencies for instructional purposes. Analysis provides a way of systematizing instruction so that only important content is taught.

Four Basic Steps in an Analysis

1. Identify the whole
2. Relate parts to one another
3. Separate the parts
4. Limit separation so parts don't lose their identity

Why a Trade Analysis Must Precede Course Organization

A trade analysis is only an exhaustive list of the skills and facts which may exist while learning a trade. It is the teachable material of the trade gathered together in an orderly and convenient form ready for assembly or fabrication into a course of study. A list of these skills and fact inventories can be secured from a reputable source. It is this fabrication and assembly of trade materials into a usable product for the teacher which transforms a trade analysis into a practical course of study.

LESSON PLAN FORMAT AND USE

The instructor must have an organized system to present information each day. From research, practical experience, and all the materials provided by the trade analysis, a lesson plan is formed. A lesson plan is an organized plan of instruction, written in the following five stages: preparation, presentation, application, test, and summary. This plan provides the instructor with detailed directions for carrying out the instructional process.

There are two types of lesson plans that are used by the instructor. The manipulative skill lesson plan is an organized plan of action that the instructor follows when the class members are to learn a skill.

Content of a Manipulative Lesson Unit

1. Specific Performance Objective Sheet
2. Five-Stage Skill Lesson Plan
3. Job Breakdown Sheet
4. Job Sheet
5. Task or Operation Sheet
6. Performance Test

An information lesson emphasizes the teaching of mental processes, trade or technical information, theory or principles, mathematics and science, all of which are exclusive of using the hands to build or create something.

Contents of a Related Information Lesson Unit

1. Specific Performance Objective Sheet
2. Five-Stage Related Information
3. Breakdown Sheet for Related Information Lesson
4. Information Sheet
5. Assignment Sheet or Experiment Sheet
6. Test and Answer Key

The instructor should know what is going to be taught as a result of having developed the lesson plan. The plan is simply a record or guide with material arranged in a logical order for reference during teaching in the shop or classroom. It is not necessary to memorize or read from the lesson plan.

DEFINITIONS USED IN ORGANIZING INSTRUCTIONAL MATERIALS

1. Assignment Sheets are structured activities designed to direct the the study of information pertaining to a lesson to be done by the student.

2. Course of Study is a comprehensive plan which shows the scope and teaching sequence of all the activities provided for a particular subject in a curriculum.

3. A Course Outline is a brief plan or overview of the course of study; a sequential enumeration in condensed form of main points and supporting details for the course of study.

4. Elements are all auxiliary components of a lesson (i.e., information sheets, assignment sheets, job sheets, test sheets, transparencies, etc.).

5. An Experiment Sheet is a format sheet organized with subject of the experiment, introductory information, equipment set up, the procedures, and space for the working diagram when needed. Spaces can also be included for recording the data from the experiment and conclusions derived from the performance of the experiment.

6. An Information Sheet contains facts that are essential to understanding an area of study that is informational in nature.

7. Instructional Aids are the things which make the teaching of a particular lesson easier and more efficient. Included are charts, diagrams, transparencies, slides, filmstrips, etc.

8. A Job Sheet is a written information sheet that presents exact directions, procedures, and tests designed to assist the learner in mastering an assigned task.

9. A Lesson Plan is an organized plan of instruction presented in the following five stages: preparation, presentation, application, test, and summary.

10. A Module is a complete unit of study consisting of all its elements--a major segment of work where skills and knowledge have closely related elements.

11. A Specific Performance Objective Sheet is a unit instruction sheet, for student use, which supports the lesson plan and directs the activities of the learning experience.

12. A Test Sheet is an examination designed to measure the achievement of the student-learner.

13. A Unit is a lesson plan or group of lesson plans and all its elements.

LESSON PLAN FORMAT

One of the keys to successful teaching is a careful planning of a lesson. The five stages of instruction is a format. When used correctly, it can ensure the teacher of doing a complete job of teaching. It is a tried and proven format having within its structure the necessary three laws of learning:

Stage I	Preparation--Law of Readiness
Stage II	Presentation--Law of Effect
Stage III	Application--Law of Exercise

Every lesson must be taught to ensure the teaching-learning process:

1. The student must see the need for learning the material presented in the lesson.

2. The lesson must be taught in clear concise language compatible with the student's ability.

3. The student must be able to apply what has been taught.

Learning will not take place if the instructor fails to use all three laws of learning in the lesson. The lesson plan format on the following page shows the five stages of instruction.

Instructor's Lesson Plan Manipulative Skills or Related Information

SUBJECT:
JOB (or operation):
SPECIFIC PERFORMANCE OBJECTIVE:
TOOLS AND EQUIPMENT:
MATERIALS:
TEACHING AIDS:
REFERENCES:

I. PREPARATION (of the learner)

A. Objectives
B. Requirements (how well, how much)
C. Motivation (why)

II. PRESENTATION

Operations, Steps, or Instructional Topics	Key Point (things to remember to do or say)
A. Explanation plus Illustrations	
B. Demonstration plus Explanation	
C. Repeat until the student understands	

III. APPLICATION (practice by learner under close supervision)

Drills, Illustrations, Oral Discussions, Questions, or Assignments

A. Thinking, Talking, Writing, Doing
B. Use individual or group performance
C. Supervise closely
D. Remember, you learn by doing

IV. TEST (performance of skill to acceptable standards)

Final check on students' comprehension of material presented

A. Did they learn?--Oral, Written, Performance, and Observing in Applications
B. Planned Exercises, Problems, and Questions

V. SUMMARY (re-emphasize key point or topics)

A. Re-emphasize key point or topics
B. Strengthen weak points
C. Plan specific question; answer student questions
D. Summarize

The following lesson plan is an example of a typical manipulative lesson.

INSTRUCTOR'S LESSON PLAN
MANIPULATIVE SKILLS OR RELATED INFORMATION

Sample

Unit____________

Lesson__________

SUBJECT:	
JOB (or operation):	Paper jogging
AIM (or purpose):	To develop a skill in handling paper correctly and safely
TOOLS AND EQUIPMENT:	Worktables
MATERIALS:	18 reams of 20# 8 1/2" x 11" bond paper
TEACHING AIDS:	
REFERENCES:	

I. PREPARATION (of the learner)

A. Trade tricks sometimes make major skills easier to accomplish.

B. Relate the importance of paper jogging in the printing trade.

C. The handling of paper allows a person to determine the weight and quality of paper and the problems to be expected from the paper.

II. PRESENTATION (of the skills)

Operations, Steps, or Instructional Topics	Key Points (things to remember to do or say)
A. Opening the package	a. List on the board ways paper is affected by cutting and packaging. b. Stress Safety: Lifting objects; papercuts and how to avoid them c. Select felt side to open d. Remove wrapping paper
B. Fanning the stock	a. Explain what fanning does b. Explain each step, stressing safety

C. Separating the sheets	a. Explain the meaning of the word "lift" b. Hold the paper correctly and safely c. Bend and separate the sheets
D. Square the paper	a. Let the paper fall; squaring it b. Stress safety c. Repeat steps for understanding

III. APPLICATION (practice by learner under close supervision)

Drills, Illustrations, Oral Questions, or Assignments

A. Repeat demonstration with student, giving the steps and key points.

B. Have students do the demonstration, giving the steps and key points.

C. Have student do the demonstration with other students giving the steps and key points.

IV. TEST (performance of skill to acceptable standards)

Final check on students' comprehension of material presented

A. Divide the class into groups of two and give each a ream of paper.

B. Let them repeat the demonstration.

C. Use student who helped in the demonstration to help check the groups.

V. SUMMARY (re-emphasize key points or topics)

A. Summarize by putting the main steps on chalkboard

B. Repeat the safety precautions on lifting and how to avoid papercuts.

The next lesson is: Loading the paper feeder

Breakdown of the Presentation Stage

Certain areas in the presentation of a lesson are often found to be too difficult or complex for the learner to understand. The lesson cannot be complete until all stages are completed. To make the more difficult areas easier to understand, a job breakdown sheet or worksheet can be designed. This sheet will contain only one simple part of the job covered in a manipulative lesson plan. The use of this sheet can perhaps be better explained in the format itself.

BREAKDOWN SHEET OR WORK SHEET FOR
ORGANIZING STAGE II PRESENTATION
MANIPULATIVE OR RELATED INFORMATION LESSON

JOB OR SUBJECT SKILLS

OPERATION OR UNIT SKILLS TO BE MASTERED

STEPS: WHAT THE WORKER MUST DO	KEY POINTS: WHAT THE WORKER MUST KNOW TO DO
TEACHING POINTS	THINGS TO DO OR SAY
A. A step is that part of an operation in which something actually happens to further the operation itself.	a. Key point is the term for whatever is the key to the correct way of carrying out a step.
B. Examples: 1. "Screw down wing nut" 2. "Mixing the batter" 3. "Cutting the pipe" 4. "Sewing button on" 5. "Take hold of the" 6. "Wing nut" is not step	b. Cover key point in order of importance: (1) Factors that make or break the job (2) Safety or precautions (in many jobs rank first) (3) Pointers that make the job easier to do--we call these "tricks", "knack," "feel," and "savvy"
C. Do not go into hair-splitting details, but use just simple common sense phrases of important steps in "putting over a job"	c. Key points do not cover every conceivable detail that should be watched or that might go wrong. Knowing what key points are and how to pick them out quickly are perhaps the most important things in job instruction.

The following is an example of a breakdown of a manipulative skill lesson.

BREAKDOWN OR WORK SHEET FOR ORGANIZING STAGE II PRESENTATION OF A MANIPULATIVE OR RELATED INFORMATION LESSON

TASK OR SUBJECT: Drilling a hole with brace and bit (wood)

OPERATION OR UNIT: Putting bit in brace

STEPS: WHAT THE WORKER MUST DO	KEY POINTS: WHAT THE WORKER MUST KNOW TO DO
TEACHING POINTS	THINGS TO DO OR SAY
A. Open chuck	a. Grasp the chuck shell with the left hand and the handle with the right hand.
	b. Turn the handle to the left until the bit will fit in the jaws.
B. Insert bit	a. Insert bit tang in jaws.
	b. Position the bit tang in the jaws.
C. Tighten chuck	a. Reverse the ratchet stop.
	b. While holding chuck shell with left hand, turn handle to the right with the right hand.
	c. Recheck the position of the tang in the jaws.
	d. Tighten the chuck so the bit will not slip.

Teaching Related Information

In addition to learning a skill, the student must learn the information related to that skill. The following pages contain a related information lesson written by a CVAE instructor which will better explain the method of presenting this information.

INSTRUCTOR'S LESSON PLAN
RELATED INFORMATION

Sample

Unit________________

Lesson________________

SUBJECT:
JOB (or operation): Developing a Pleasing Personality

SPECIFIC PERFORMANCE OBJECTIVES: To identify the characteristics of a pleasing and displeasing personality

TOOLS AND EQUIPMENT:

MATERIALS:

TEACHING AIDS:

REFERENCES:

I. PREPARATION (of the learner)

A. Success due to: 85% personality
15% ability

B. What is a pleasing personality?

C. Is a pleasing personality important on a job: Shop? School?

C. Let's develop ways to improve personality.

II. PRESENTATION (of the skills):

Operations, Steps, or Instructional Topics	Key Points (things to remember to do or say)
A. Define personality	a. Outward expression of inward possession
	b. Behavior
	c. Likes or dislikes of a person
	d. Traits, reactions, relationship

B. Characteristics of good personality	a. Suggest (1) Friendly (2) Punctual (3) Honest (4) Courteous b. Ask for suggestions from students
C. Characteristics of bad personality	a. Suggest (1) Lazy (2) Selfish (3) Snobbish (4) Stubborn b. Ask for suggestions from students
D. Individual Character	a. Is it part of personality? b. What is character? (1) System of habits, ideals, attitudes, and benefits (2) Special quality, traits, reputation c. Relate personality and character

III. APPLICATION (practice by learner under close supervision)

Drills, Illustrations, Oral Discussions, Questions, or Assignments

A. What do we mean by the personality traits? Friendly, etc.--Review list developed.

B. List bad traits--Ask students how to overcome.

C. Make list of ideal personality traits.

IV. TEST (performance of skill to acceptable standards)

Final check on students' comprehension of material presented.

Have students list their own good and bad personality traits.

V. SUMMARY (re-emphasize key points or topics)

A. Review good and bad personality traits.

B. Personality is outward expression of inward possession.

C. Pleasing personality is developed by kicking bad habits, associations.

D. Develop a growing concern for what is right

E. Review developed list of personality traits.

THE MODULE SYSTEM OF ORGANIZING TEACHING MATERIALS

With the enormous amount of material accumulated by the instructor, there must be established some adequate form of filing teaching materials for easy reference at a later time. A module is one system of organizing all of the related elements.

Develop INSTRUCTIONAL MODULES for each unit of instruction as listed in the course outline.

The INSTRUCTIONAL MODULE includes:

1. Module title
2. Module number
3. Module objectives
4. Unit (Lesson) titles
5. Unit (Lesson) Objectives (Specific Performance Objective)
6. Complete units (lessons) within the module with applicable auxiliary elements.
    a. Lesson plan
    b. Specific behavior objective sheet
    c. Information sheets
    d. Assignment sheets
    e. Job sheets
    f. Job plan sheets
    g. Task or operation sheets
    h. Experiment sheets
    i. Evaluation--test sheets and answer keys
    j. Visual aids (transparencies, filmstrips, slides, etc.)

Provide other supportive aids and materials such as:

1. Progress charts
2. Reference library materials
3. Visual aids--charts, posters, models, mock-ups, etc.

Establish the relationship of supportive aids to the units of instruction within the modules.

1. Decide the order in which you would present the unit.
2. Number or label units of information with all of their elements to correspond with any supportive aids needed during the use of each unit.
3. Set up filing system according to numbers or labels for easy reference during teaching.
4. As new teaching materials and new units are developed, add to and reorganize the order of the modules to provide an up-to-date and well-organized curriculum.

CHAPTER VII

SHOP ORGANIZATION

The Coordinated Vocational-Academic Education instructors must know what management and other nonteaching responsibilities are theirs, which belong to other individuals, and which are shared. They also must have certain information before the course begins. The Coordinated Vocational-Academic Education instructors should consult and cooperate with the other people involved to get answers to the following questions:

1. To what extent is the instructor accountable for loss or damage to tools, equipment, and supplies? What procedures can be worked out to minimize loss and breakage?
2. Where and how can the instructor get parts and other necessary items when the usual supply channels are closed? Can anyone be called after hours?
3. Where and to whom should damage, loss, and need for repairs be reported?
4. Who is responsible for custodial services? What clean-up and put-away services should this group provide? Closing windows? Putting away equipment and tools? Other?
5. What storage is available? For coats and other personal belongings? For teaching aids and notebooks and similar items?
6. Who do you contact if a student is injured? Where should the instructor report accidents?
7. What to do in emergencies: Where are fire alarms? Extinguishers? Hoses? Fire escapes? Where can the instructor get help in case of a fire? Where are first-aid kits? Are there trained individuals, such as a school nurse, who might assist? How can ambulance service be obtained? Where should fires be reported?
8. When fire or other hazards appear, how can they be corrected? Who is responsible for correcting them?
9. Is there a telephone near to report fires, accidents, and other necessary information to responsible persons?

A Pre-course Inventory and a Safety Survey

Before assuming responsibility for the tools, equipment, and supplies that will be used in this course, the occupational instructor should take a careful and complete inventory. The objectives are to:

1. Provide a list of all items and a description of their condition so that the instructor will not be held unfairly responsible for loss or damage.

2. Make it possible to order any missing equipment or supplies needed. Unless they are available at the right time, equipment and supplies are useless.

3. Make it possible to arrange for all tools and equipment to be put in satisfactory operating order. Students should not use tools and equipment which are not functioning properly.

In addition, the instructor should conduct a safety survey. Here are some conditions which the instructor should look for when surveying a shop for potential hazards:

HAND TOOLS that are:

1. Dull or otherwise worn
2. Without proper handles
3. Wrong size or kind for jobs planned

MACHINES that are:

1. Too close together
2. Without proper safeguards
3. Broken
4. Improperly adjusted
5. Insufficiently lubricated
6. Too small or weak for the job
7. Equipped with dull knives or cutters

SHOP CLOTHING that is:

1. Inappropriate
2. In poor condition
3. Loose or flowing

DANGEROUS CONDITIONS such as:

1. Exposed electrical wiring
2. Holes in the floor
3. Projecting objects
4. Unstable or broken ladders or scaffolds
5. Defective hoisting equipment
6. Slippery floors
7. Inadequate lighting
8. Insufficient ventilation or poor venting of dangerous fumes

MATERIALS that are:

1. Inflammable
2. Poisonous
3. With sharp or jagged edges
4. Stored in a dangerous way

ELECTRICAL TOOLS & EQUIPMENT that:

1. Are improperly grounded
2. Have faulty switches
3. Do not have sufficient current
4. Have faulty connections

SAFETY EQUIPMENT (first-aid kits, fire extinguishers, rubber mats, goggles) which is:

1. Inadequate
2. Too old or inoperative
3. Too difficult to find or reach
4. Caustic solutions

A complete safety survey of shop will take time, but it is crucial because of the need to protect both the learners and the instructor. An instructor is subject to disciplinary action for letting unsafe conditions continue and may be legally liable for negligence that contributes to an accident. It isn't enough to find and report unsafe conditions--they must be corrected!

CHECKLIST OF ORGANIZATION AND MANAGEMENT RESPONSIBILITIES

About physical surroundings, ask yourself:

1. Is there enough space? Light? Ventilation, with special provision for dangerous fumes?
2. Is the room at a comfortable temperature for working or studying?
3. Have hazards been eliminated?
4. Can learners see the instructor from their seats or workplaces?
5. Does the room meet the highest standards of cleanliness of the occupation?
6. Are workplaces arranged as they would be in the occupation?
7. Does the room meet the highest standards of orderliness of the occupation?
8. Are aisles kept clear?
9. Are storerooms organized efficiently, with items used most often conveniently placed?
10. Is it possible to take a "visual inventory" in the toolroom, noting what tools or other items are missing at any time?
11. Are there enough bins, racks, shelves, holders, and brackets to minimize damage from stocking or moving?
12. Is there a system for controlling flow of items in and out of storage area?
13. Is there protection against theft?

About tools and equipment and utensils, ask yourself:

1. Is it possible to know at any time who has and is responsible for each tool or item of equipment?
2. If a tool crib is used, is it treated as a training opportunity for the tool crib attendant?
3. Are all tools clean, painted, and marked to indicate ownership?
4. Are all tools in top operating condition?

About class routine, ask yourself:

1. Does everyone understand clearly when class begins? When there will be breaks? When there will be a time for cleanup and put-away activities? When class ends?
2. Does each trainee know the specific attendance requirements that must be met?
3. Is there an effective system for reporting absences?

Have you oriented the students by letting them know:

1. What they can gain by successful completion of the course?
2. What standards they must meet in terms of skill, knowledge, and attitude?
3. That a good attitude is important for holding a job?
4. Whom to consult with particular problems?
5. What agencies are cooperating in the training program, and why?
6. Their relation to other groups sharing shop or classroom facilities?
7. Their individual responsibilities for tool and machinery care?
8. Out-of-class study? Practice? Cleanup? Others?
9. Their assignments to work stations? Toolroom responsibilities?
10. Safety inspection teams? First aid assistance?

About health and safety of students, keep asking yourself:

1. Do they wear appropriate shop clothing? Goggles? Safety shoes? Hard hats? Gloves?
2. Do they avoid horseplay and carelessness?
3. Are there adequate precautions in the use of chemicals?
4. Is there proper ventilation of dangerous fumes and proper general ventilation? Are any of the cleaning fluids used dangerously?
5. Are the trainees using all safety equipment, including guards on machines?
6. Is safety emphasized in every job and operation taught, with safety and necessary precautions taught for each step?
7. Is action being taken to counteract the human factors that cause accidents? Ignorance? Carelessness? Fatigue caused by continuous work, high speeds, poor lighting, heating, or ventilation?
8. Do you know the fundamentals of first aid such as treatment of shock, bleeding, or stoppage of breath? If not, do you know where to get help quickly?
9. Is there some way you can use posters, films, or other teaching aids for stressing general safety items? Have you tried to obtain such aids from school authorities, companies, or people in the occupation?

Finally, remembering that every instructor's action teaches some student something, ask this:

Are you setting a good example by your attitude toward safety and precautions? Standards of workmanship? Efficient procedures? Orderly and clean physical surroundings? The people you work with? Your job?

Factors to Consider in Selecting Jobs For Training

Learning is more effective if the learner is motivated. Most people balk at cutting an eight-foot 2 x 4 into short lengths, just to acquire skill in using a saw. But the same people can be kept interested if they perform jobs--or series of jobs--in which they use a tool often enough to develop the required skill. That is one reason why training should involve the learners in doing the actual jobs currently used in the occupation. In addition, learning should take place under conditions experienced in the occupation if trainees are to be prepared realistically for what they must face later.

The CVAE instructors are selected because of their knowledge of the skills and jobs which must be mastered. These individuals know each job, know which skills are demanded for each job, and know the relative difficulty of the jobs. At one time it was necessary for most instructors to develop their own analysis for each trade, but today many complete trade analyses are available from state, local, and national organizations. With such a list, the instructor may need only to select and arrange the jobs for the particular course being taught. In that task, the instructor can often make use of expert assistance from a local committee of tradesmen.

Whether the jobs were selected beforehand, whether the instructor must carry out that assignment, or whether there is help from a committee, certain factors involving the teaching value of each job are involved.

Teaching Factors to Consider

1. Jobs should be selected on the basis of their applicability. Teach what the individual needs to know to keep and hold a position in the occupation.
2. Jobs should be selected considering specific skills and competencies involved. Because a learner may not get enough practice in a skill on a particular job, it is important to have enough jobs to teach each skill required.
3. Each job should be evaluated for its relative difficulty. Effective teaching demands that jobs be taught in a simple-to-complex order. When evaluating specific jobs for relative difficulty or complexity, the instructor may need to consider requirements for speed, accuracy, finish, muscular coordination, knowledge, and judgment . Other factors may be involved, depending on the job and occupation.
4. As far as possible, each job should produce a useful result. This policy will help motivate learners to do their best. For example, a person is naturally more interested in repairing a garment that will be worn rather than doing the same job on a garment that will be returned to the rag bag. The student needs the feeling of useful accomplishment.

Management Responsibilities

After the jobs to be taught have been selected, the instructor will still have additional information to gather and decisions to make, such as:

1. Where to obtain materials, equipment, and supplies.
2. What paperwork is necessary.
3. In the case of a production job that results in finished articles, there will be special considerations. The instructor will need to dispose of the articles--by sale or by giving them to a charitable institution. In a sale, the charge might reflect such things as cost of materials, overhead, and the approximate cost of the article if bought at retail or manufacturing costs.
4. In the case of service jobs--such as repairing an individual's car--similar factors are considered when setting a price.
5. In all jobs involving customers for the completed work, there are special considerations. Will the school be accused of competition with workers in the community? Does the customer know learners are doing the work and there may be mistakes and delays in delivery?
6. A production job done for a specific customer may require a definite business procedure with a written order, specifications, contract, records, and other items.
7. If the training takes place in an industrial plant, it may be necessary to make special arrangements for insurance on the learners.

REQUISITIONS, RECORDS, AND REPORTS

Depending on the type of cluster and the work in the school and with other organizations, the instructor will do various amounts of paperwork. In some situations, the instructor may be partly responsible for finding out what is required. Before starting actual teaching, the instructor should determine the kind of paperwork that will be necessary.

Common types are:

Requisitions, which must be filled out and submitted to obtain supplies, equipment, materials, and services such as the repair of machines. A school or other organization may require special requisitions for:

1. Regular supplies or materials
2. Equipment, tools, or utensils
3. Emergency purchases
4. Repair work

Reports, which are prepared by the instructor to inform someone else. A report may go to local, state, or federal authorities--to school, company, or governmental officials cooperating in a training program. Reports may be required for:

1. Accidents
2. Attendance
3. Enrollment at the start of a course
4. Number of successful trainees and their names

Records, which are kept by the instructor for personal reference. They may be required to back up something in a report, to justify expenditures or decisions, or to show that training and shop management were conducted in the proper way. Common types of records show:

1. Attendance at each session and for each individual
2. Progress of each individual during the course
3. Jobs performed by each student to develop skills
4. What books and other teaching materials are checked out
5. Use of supplies and materials
6. Condition, breakage, and loss of tools
7. Repair, servicing, oiling, and other maintenance of machinery

The inventory made at the first of a course is an important record, and it may be desirable to make a similar inventory when training is completed. Also, the safety survey and resulting actions taken to correct hazardous conditions could be a useful record in some situations.

PREPARING RECORDS, REPORTS, AND REQUISITIONS

Regardless of the nature of the specific type of paperwork required of a particular instructor, there are certain recommendations that will always prove helpful.

1. All paperwork should be accurate, complete, neat, and legible.
2. Because of the need for accuracy and completeness and because memory is not entirely reliable, it is important to gather data on an "as-you-go" basis. Whenever something occurs that should be recorded or reported, write yourself a note.
3. Reports should be filed promptly, so make a point of allowing yourself plenty of time to prepare each report. It might be possible to use an assistant from the class to help with the detail work of keeping records and making reports.
4. Don't forget that a record is useless unless it is in a place where you can quickly and easily get to it. File records so they may be easily retrieved.
5. A complete financial record of all expenditures should be maintained. Receipts should be given for monies received from any source.

CONTROL OF TOOLS, MACHINES, AND EQUIPMENT

The shop or laboratory instructor has charge and responsibility of a large variety of valuable machines and tools. The handling and storage of machines and tools must be organized in such a way as to protect these tools and machines against loss, destruction and deterioration. All tools and machines should be marked with paint, electric stylus, stamp, etching, and other methods. Constant checking, as well as minor repairs, are necessary for keeping tools and machines in excellent working condition.

Tool Check System Commonly Used

1. A quick way to keep a close check on the tools that are commonly used is to use a diagram of each tool directly behind its designated place on the tool panel. The diagram will be a picture of each tool painted in a bright color so that it is easy to check to see that all tools are turned in. At the end of each class period the tool clerk will check the tool panel to see that all tools are in their proper places. If a tool is missing, the tool room clerk will notify the shop foreman or instructor, and special attention will be given to locating the missing tool.

2. One method of checking tools out of the tool room is for each student to be issued a given number of metal tool checks stamped with a number assigned to each student. When a student requests a tool from the tool room clerk, the clerk substitutes that student's tag for the tool on the wall tool silhouette. When the student returns the tool, the tag is returned.

3. Another method of checking tools from the tool room is for the student to sign for each tool checked out. The tool room clerk marks through the student's name when the tool is returned.

4. Tool sets, such as sockets, combination wrenches, or nut drivers may be color coded to simplify keeping sets complete and prevent sets from getting mixed with other sets. The students can control their own tools and when returning the set to the tool room, they are assured of returning the tools they are charged with.

   Special tools such as electrical test equipment, torque wrenches, and micrometers may be kept in a separate cabinet and issued only by the shop foreman or instructor.

5. A tool check card system may be used when students withdraw items from the tool room. This system requires the student to write the name of the tool on a tool check card. This system will help teach the student how to spell and correctly use the name of the tool.

Remember--The tool system used is no better than the regulations and rules set up to govern it and the enforcement of the system by the instructor. You have to develop a plan, and work the plan.

CONTROL OF SUPPLIES AND MATERIALS

The instructor should have the shop so well organized that materials and supplies are available and may be issued to students in an orderly and efficient manner. It is good practice to have each student request materials by use of a requisition. A supply requisition, as illustrated, may be used to give student experience in writing requisitions, issuing materials, and keeping records of supplies and materials charged to a job.

SUPPLY REQUISITION

Student's Name ______________________ Date ______________

Period ______________________________ Job _______________

Quantity	Item Description	Stock No.	Unit Price	Total Price

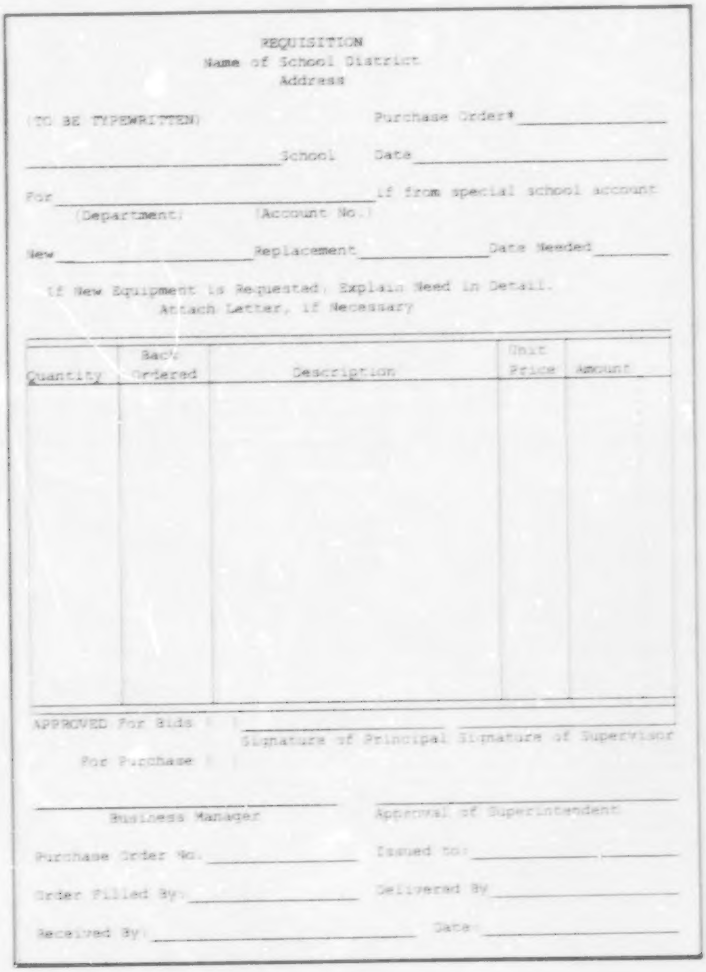
Supply Clerk ________________ Received By ______________

CONTROL OF BUDGET, REQUISITIONS, AND PURCHASE ORDER INVOICES

The instructor should consult the local school officials about the exact amount of budgeted funds available for the operation of the vocational unit being taught. It is of utmost importance for the instructor to follow the accounting system in reference to the purchase of equipment, supplies, and materials. Also, a systematic set of records of purchasing and receiving should be maintained.

Most schools require that a requisition be submitted through the proper channels when making purchases that obligate the school. Exact specifications for each item must be given. The instructor may be required to complete the requisition or furnish information to the school secretary who, in turn, will type the requisition and process it through proper channels. The designated school official approves the requisition and assigns a purchase order number before purchases are made. Open requisition orders for supplies such as oxygen, acetylene, cleaning solvents, etc., may be set up as a quick method of purchasing some items.

The following is an example of a typical requisition.



REQUISITION
Name of School District
Address

(TO BE TYPEWRITTEN) Purchase Order# ______________

______________________ School Date ______________________

For ______________________ if from special school account
(Department) (Account No.)

New ______________ Replacement ____________ Date Needed ________

If New Equipment is Requested, Explain Need in Detail.
Attach Letter, if Necessary

Quantity	Back Ordered	Description	Unit Price	Amount

APPROVED For Bids ( ) ____________________ ____________________
Signature of Principal Signature of Supervisor

For Purchase ( )

______________________ ______________________
Business Manager Approval of Superintendent

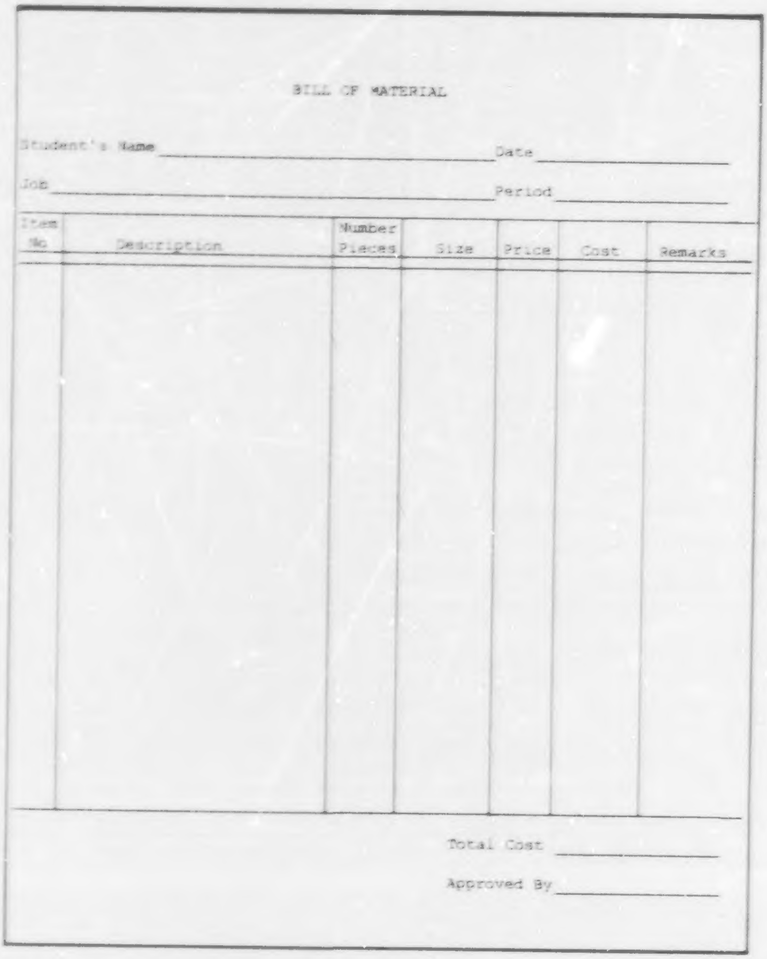
Purchase Order No. ______________ Issued to: ______________

Order Filled By: ______________ Delivered By ______________

Received By: ______________________ Date: ______________

Some instructors require all students to complete a bill of material before starting a job. The instructor approves the bill of material as a part of a planned job, thereby authorizing the student to draw materials from the stock room. This is another method of keeping track of materials to be charged to a student.

The following is an example of a student's Bill of Material.



BILL OF MATERIAL

Student's Name ______________________ Date ____________

Job ______________________ Period ____________

Item No	Description	Number Pieces	Size	Price	Cost	Remarks

Total Cost ____________

Approved By ____________

CONTROL OF INVENTORY

Every instructor should make a complete annual inventroy of all tools, machines, equipment, and supplies. This is good shop management and will assist in the placement, ordering, and justification of expenditures for the total operation of the program.

The following is an example of an annual inventory supplies and materials list:

SCHOOL DISTRICT

School ______________________________ Date ______________

SUPPLIES AND MATERIALS INVENTORY

Item	Stock No.	Balance on Hand	Unit Cost	Total Cost	Projected Need

As part of the stock inventory of supplies and materials, the instructor may need to use a perpetual inventory card. This type of inventory, if kept up-to-date, will assist the instructor in keeping adequate supplies and materials available at all times. The inventory card will also assist in completing the annual inventory.

The following is an example of an Inventory Card.

STOCK INVENTORY CARD

Item ____________________ Stock No. ____________________

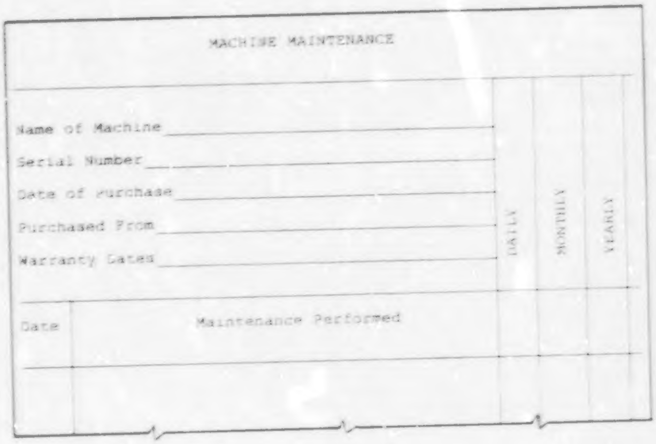
Date	Amount Recieved	Amount Issued	Unit Price	Total Price	Balance on Hand $	Balance on Hand (Stock)

CONTROL OF SHOP MAINTENANCE

Since the instructor is responsible for keeping tools, machines, and equipment in condition for safe and effective use, a periodic systematic maintenance program will guard against accidents and provide effective means for tools and machines to be kept in excellent working condition. Machines should be constantly checked, adjusted, and tested in order to work properly and reduce the need for major repairs. Students should do as much of the maintenance as is practical, but their work should be carefully supervised.

The school shop deteriorates through use unless an effort is made to keep it at the peak of condition at all times. Participation of students in maintenance and shop cleanup teaches them habits of order and cleanliness.

The best procedure for the instructor to follow is to design maintenance check forms for the entire shop program. To accomplish this, the instructor needs to plan time to make regular and frequent inspections. A permanent maintenance record for each piece of machinery should be maintained. The illustration at the right is an example of a Maintenance Record.



MACHINE MAINTENANCE

Name of Machine ____________________

Serial Number ____________________

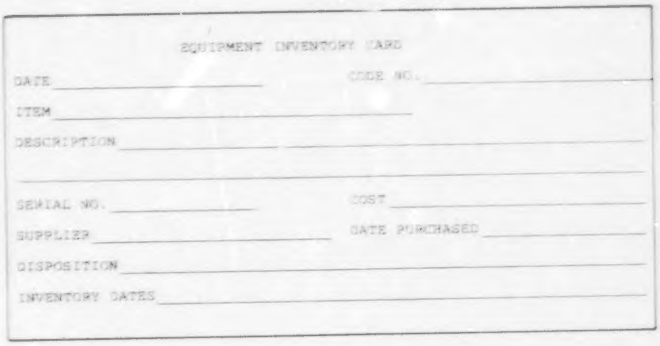
Date of Purchase ____________________

Purchased From ____________________

Warranty Dates ____________________

Date	Maintenance Performed	DAILY	MONTHLY	YEARLY

Some shop teachers may prefer to use a card system as a method of maintaining a permanent equipment inventory. The card at the right may be kept on each piece of equipment.



EQUIPMENT INVENTORY CARD

DATE ____________ CODE NO. ____________

ITEM ____________________

DESCRIPTION ____________________

SERIAL NO. ____________ COST ____________

SUPPLIER ____________ DATE PURCHASED ____________

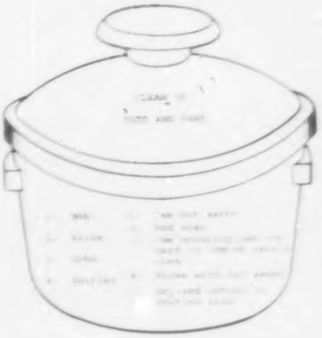
DISPOSITION ____________________

INVENTORY DATES ____________________

STUDENT RESPONSIBILITIES

One of the most important factors in operating a successful program is being able to delegate responsibilities. Students in the CVAE programs should be assigned definite jobs and duties within the training schedule. There are many different styles of organization, responsibilities, and rotation charts. The best formula is to develop a workable one that both you and your students will understand.

When analyzing the ability and mental capacity of your students, it may be more beneficial to use some charts other than the standard types used in other vocational programs. An illustration of this could be as in cleaning pots and pans in the baking area of Home and Community Services. The example at the right is one such illustration which might make the duties more meaningful.



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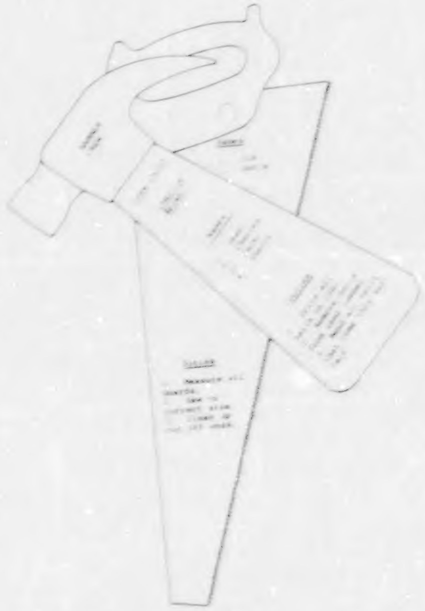
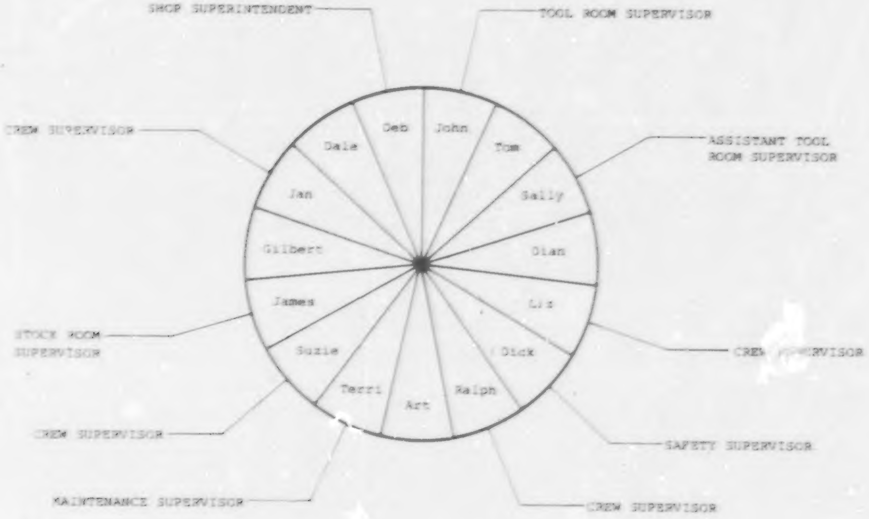
An illustration in General Construction could be a silhouette of a hammer and a handsaw. This would include the list of the students and their duties with this particular tool or piece of equipment. The illustration at the right is one such example.



The Responsibility Wheel assigns a student a specific set of duties. The wheel shows the assignment with specific duties to perform. The wheel below typifies the duties in one particular shop lab.


SHOP SUPERINTENDENT
TOOL ROOM SUPERVISOR
CREW SUPERVISOR
ASSISTANT TOOL ROOM SUPERVISOR
Deb
John
Dale
Tom
Jan
Sally
Gilbert
Dian
James
Liz
Suzie
Dick
Terri
Art
Ralph
STOCK ROOM SUPERVISOR
CREW SUPERVISOR
CREW SUPERVISOR
SAFETY SUPERVISOR
MAINTENANCE SUPERVISOR
CREW SUPERVISOR

A good method of identification is to make up a badge with students' names and assignments corresponding with the Responsibility Chart. The example at the right is one type of badge that might be used.

SHOP SUPERINTENDENT

JACK JONES

Some of the areas of responsibility and the duties accompanying each are as follows:

Stock room supervisor duties

1. Issues material and supplies according to organizational plan
2. Keeps records of all materials and supplies issued
3. Writes receipts for all funds received for material and supplies
4. Maintains stock room or stock area in a neat, orderly manner
5. Confers with instructor on any items that are running low
6. Works on regularly assigned jobs
7. Keeps running inventory of materials and supplies
8. Keeps stock room locked when materials or supplies are not being issued
9. Reports at closing class session on status of any irregularities or new items of interest to class

Maintenance supervisor duties

1. Announces cleanup assignments
2. Instructs students in specific cleanup duties
3. Receives reports on tools and machines that need reconditioning or repairs
4. Confers with instructor on plan for getting items reconditioned or repaired
5. Confers with shop superintendent on substitute cleanup assignments
6. Oils motors, fans, and machines according to schedule
7. Works on regular assigned jobs
8. Inspects students' cleanup work and reports during session of class

Crew supervisor duties

1. Checks rotation chart for list of crew members
2. Assigns jobs to the work crew
3. Maintains standards on the job
4. Checks tools before check-in time for loss, breakage, and cleanliness
5. Checks tools into toolroom
6. Cleans the work area
7. Removes job from work area so it can be used by next class

Toolroom supervisor duties

1. Issues and receives tools according to plan
2. Sharpens, repairs, and maintains tools
3. Mounts and outlines new tools on panels
4. Improves old tool panels and storage
5. Inventories all tools and equipment
6. Makes daily report to shop superintendent on missing tools
7. Works on regular assigned jobs in toolroom
8. Improves toolroom efficiency whenever possible

Shop superintendent duties

1. Meets all visitors entering shop area
2. Answers telephone if instructor is not in area
3. Presides at opening, closing, and other class meetings
4. Assists in changing rotation of assignments
5. Calls tool check-in time
6. Calls cleanup time
7. Works on assigned jobs except time spent on official duties
8. Checks facilities at beginning and close of class
9. Reports hazards, problems, and improvements of facilities to instructor
10. Reports need of parts and supplies to instructor
11. Instructs newly assigned shop superintendent on duties

Safety supervisor duties

1. Checks shop and related area for proper light and ventilation
2. Explains general safety rules and regulations
3. Checks all machines for safety guards, goggles, and protectors
4. Administers fire drill
5. Makes accident and safety reports
6. Inspects for proper work dress
7. Changes safety posters
8. Inspects repaired tools and machines before putting them back into use
9. Checks for unsafe work habits
10. Works on regularly assigned job
11. Checks shop at close of period for hazards
12. Makes report to shop superintendent at close of class session

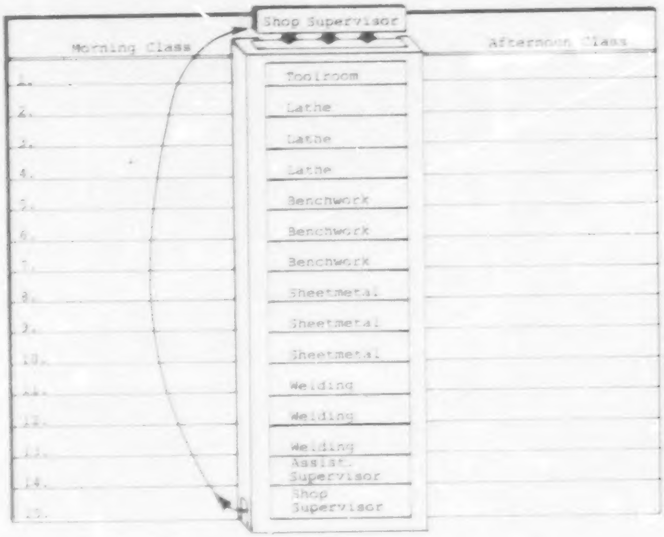
ROTATION CHART

The Rotation Chart may be used by the instructor when work stations are used as a method of training each student in the overall operation of a unit. A good example of work stations can be found in the General Mechanical Shop. Work stations may be set up as fuel systems, engines, brakes, and front end alignments. General Construction follows a pattern of: foundations, framing, roofing, concrete and electrical work. Home Community Food Services: beverages, salads, soups, meats, desserts, vegetables. Another example of rotation is by equipment such as: stoves, dishwashers, washing machines, vacuum cleaners in home and community services. General Metal could have: lathe, sheetmetal, bench work, and welding.

The following example of the Rotation and Job assignment chart serves a dual purpose. As illustrated, Block 15 is being moved to position of Block 1 signifying student 15 has completed a week of duties as foreman. Each block will shift to the right, identifying each student in the next work area. A grade or notation can be given as rotation continues.

ROTATION

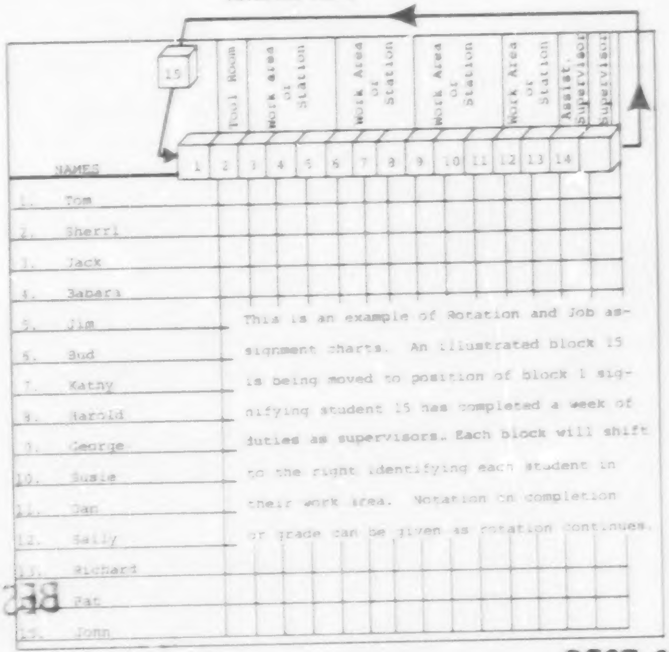
CHART



Shop Supervisor
Morning Class
Afternoon Class
1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
11.
12.
13.
14.
15.
Toolroom
Lathe
Lathe
Lathe
Benchwork
Benchwork
Benchwork
Sheetmetal
Sheetmetal
Sheetmetal
Welding
Welding
Welding
Assist. Supervisor
Shop Supervisor

The following block rotation chart combines some shop responsibilities with job assignments. This chart allows students in two different shop classes to see what their area of responsibility is for the week.

ROTATION CHART



15
Tool Room
Work area of Station
Work Area of Station
Work Area of Station
Work Area of Station
Assist. Supervisor
Supervisor
NAMES
1
2
3
4
5
6
7
8
9
10
11
12
13
14
1. Tom
2. Sherri
3. Jack
4. Babara
5. Jim
6. Bud
7. Kathy
8. Harold
9. George
10. Susie
11. Dan
12. Sally
13. Richard
14. Pat
15. John

This is an example of Rotation and Job assignment charts. An illustrated block 15 is being moved to position of block 1 signifying student 15 has completed a week of duties as supervisors. Each block will shift to the right identifying each student in their work area. Notation on completion or grade can be given as rotation continues.

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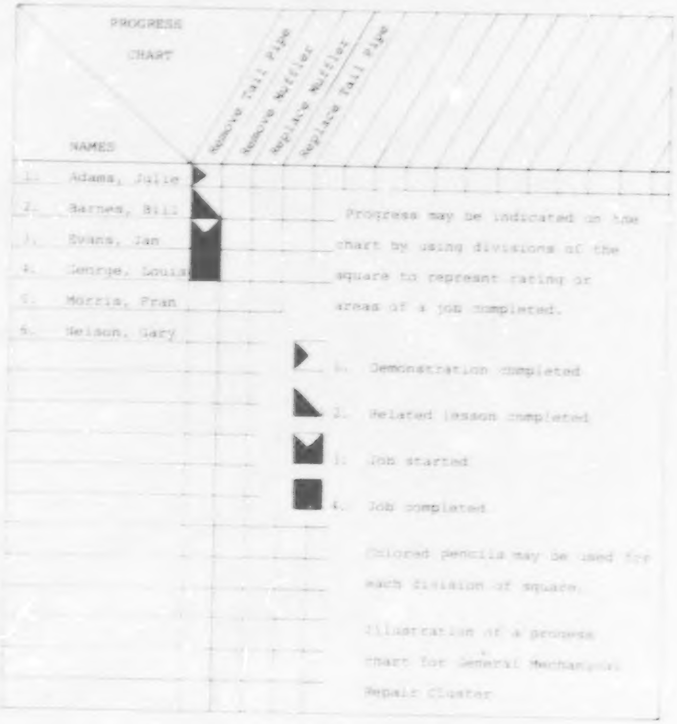
With these examples in mind, the instructors can develop a rotation chart to fit the particular program. They should list equipment, materials, and the number of students in class before developing the chart. When the chart is completed, it must be explained to the students so they know their responsibilities and duties. A successful program is one that is well organized and managed with responsibilities shared by all within the program itself.

PROGRESS CHART

The Progress Chart, as shown below, may be used to indicate visually and in graphic form the progress and attainment of the students. It furnishes all the students with a very definite outline of what they are expected to accomplish during the period of training. It is also a method of creating interest and desire for recognition. The inclusion of grades and other notations that might tend to be a source of embarrassment should be omitted. Each instructor will need to design a Progress Chart that fits the needs of the occupational area.


PROGRESS
CHART
NAMES
Remove Tail Pipe
Remove Muffler
Replace Muffler
Replace Tail Pipe
1. Adams, Julie
2. Barnes, Bill
3. Evans, Jan
4. George, Louis
5. Morris, Fran
6. Nelson, Gary
Progress may be indicated on the chart by using divisions of the square to represent rating or areas of a job completed.
1. Demonstration completed
2. Related lesson completed
3. Job started
4. Job completed
Colored pencils may be used for each division of square.
Illustration of a progress chart for General Mechanical Repair Cluster

Progress may be indicated on the chart in several ways and a rating may also be kept. This may be done through the use of colored pencils or shading different divisions of the square. Printed Progress Charts may be ordered from the Interstate Printing Company in Danville, Illinois, under Recorder No. 160.

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RATING SHEET

The management of the shop is one of the most important aspects of maintaining an organized shop. The points discussed in this chapter will greatly help an instructor in his shop management. The following rating sheet can be used by the instructor to point out those areas needing strengthening after the teaching year has begun.

VOCATIONAL EVALUATION
FOR
COORDINATED VOCATIONAL-ACADEMIC EDUCATION
SHOP AND LABORATORY

Vocational Evaluation

1. Title of Class/Program: ______________________________

2. Type of Class/Program: ____Regular ____Disadvantaged ____Adult
____Handicapped

3. Campus Name: ______________________________

4. Name of Instructor: ______________________________

This vocational education evaluation is required each year of every program receiving state and federal vocational funding, and the results of these evaluations are to be made available for review by an Advisory Committee or other persons responsible for determining the productivity of the program.

The primary purpose of the local evaluation is for local personnel to document strengths and weaknesses within the school's vocational programs and to become aware of what the state and federal agencies require of vocational programs.

Monitoring team members will require these evaluations as a means of determining if improvements are being made from one year to the next.

Program Objectives

	YES	NO
1. A statement of objectives exists in written form for each vocational education program.	____	____
2. The statement of objectives clearly defines the purpose to be achieved in vocational education programs and the final goal of employability of students.	____	____
3. The program objectives are reflected in course curriculum and objectives are written into criteria for completing the course.	____	____
4. It is apparent the instructor is working to accomplish the stated objectives.	____	____

Comments:

Strengths:

Weaknesses:

Student Selection

		YES	NO
1.	Students entering the program have objectives compatible with program objectives leading to employment and good citizenship.	____	____
2.	Student selection is based on ability to profit from instruction. (Interest, aptitude, physical requirements, educational requirements.)	____	____
3.	All students enrolled are eligible for the program and are preparing for employment in the trade being taught.	____	____
4.	Students are re-enrolled in other school programs when it is evident they are not making satisfactory progress.	____	____

Comments:

Strengths:

Weaknesses:

Student Atmosphere

1.	Student dress and attitude are appropriate for the program activities.	____	____
2.	Students are working towards stated objectives.	____	____
3.	All students are regular in attendance and have satisfactory training opportunities. (Training stations and training experience are satisfactory.)	____	____
4.	Student-teacher ratio is satisfactory.	____	____
5.	With the exception of first year programs, all students enrolled can secure a minimum of two years training and are ready for employment immediately following completion of training.	____	____

Comments:

Strengths:

Weaknesses:

The Instructional Program

	YES	NO
1. Activities performed are useful and productive.	____	____
2. There is a written course of study which is being followed.	____	____
3. This course of study is up-to-date and is compatible with objectives, equipment, and the needs of beginning workers.	____	____
4. A related instructional program is evident.	____	____
5. The shop or laboratory instructional program is well organized and provides skill training leading to employment.	____	____
6. The instructional program provides for individual differences of students and at the same time has sufficient breadth and depth to challenge all students.	____	____
7. The instructional program provides for orderly progression of students as evidenced by a progress record.	____	____
8. The instructional program provides for the development of appreciations, understandings, habits, and attitudes as needed for students to become socially acceptable productive citizens through a state approved leadership program.	____	____
9. The instructional program is sufficiently flexible to provide for remedial instruction.	____	____
10. There is an IEP on file for each handicapped student enrolled.	____	____
11. The instructor was a member of the ARD Committee that enrolled handicapped students in this program.	____	____

Comments:

Strengths:

Weaknesses:

Instructional Material

1. Adequate related instructional materials are available.	____	____
2. Texts, reference books, and other reference material are available for use.	____	____

		YES	NO
3.	Current service manuals are available in the shop.		
4.	Mock-ups, visuals, charts, and other teaching aids are available and being used.		
5.	Lesson plans, job sheets, tests, and job plans are on file and are regularly used by the instructor.		
6.	The instructor used the state $400.00 of instructional materials money.		
7.	The instructor has additional local money for instructional materials.		

Comments:

Strengths:

Weaknesses:

Program Facilities

		YES	NO
1.	There is a satisfactory place to conduct organized related instruction.		
2.	The class space is equipped with teacher's desk, student's and teacher's chairs, chalkboard, and other items needed.		
3.	The class space is adequately lighted, heated, cooled, and ventilated.		
4.	The laboratory space is adequate to accommodate the program activities satisfactorily.		
5.	The laboratory equipment and tools are adequate and in good working condition.		
6.	Heating, ventilation, cooling, and lighting are satisfactory in shop or laboratory.		
7.	Auxiliary space for storage is satisfactory and has shelving and racks.		
8.	Material storage is provided.		
9.	Tool room in shop area is of adequate size and neatly kept.		
10.	Storage space for machine attachments has been provided.		
11.	Equipment purchased with State and/or Federal monies indicates funding source.		

YES NO

12. Inventory is kept according to Bulletin 679. ____ ____

Comments:

Strengths:

Weaknesses:

Advisory Committee

1. There is an advisory committee which meets as a group to consider program matters. ____ ____

2. The composition of this advisory committee is representative of both employees representing workers. and employers representing management and also meets the Racial, Ethnic, Sexual and other Office of Civil Rights Regulations. ____ ____

3. This committee's function is advisory rather than administrative in nature. ____ ____

4. This committee was appointed by proper school officials and functions on matters relating to the establishment of a program or the improvement of operation of an existing program. ____ ____ 5

Comments:

Strengths:

Weaknesses:

The Existing Relationships

1. Instructor and student relationships are conducive to good learning and effective leadership. ____ ____

2. Instructor and student-parents' relationships are established on a cooperative basis. ____ ____

3. Good relationships are established between instructor and potential employers. ____ ____

4. The instructor is active in community affairs. ____ ____

5. Instructor relationships with other school personnel are satisfactory. ____ ____

Comments:

Strengths:

Weaknesses:

Organization and Management
(Laboratory and Classroom)

	YES	NO
1. The laboratory and classroom are arranged for most effective use by students and teacher.	____	____
2. The equipment spacing is satisfactory.	____	____
3. The toolroom is well-planned and arranged.	____	____
4. It is evident that there is planned student organization functioning in the operation of the program.	____	____
5. A tool check system is used in checking tools in and out of the toolroom.	____	____
6. There is a system to check out materials and books.	____	____
7. There is an organized accounting system for keeping up with funds received and disbursed.	____	____
8. Provisions have been made for storage and for safekeeping of parts and other items used in the laboratory.	____	____
9. It is evident that students are aware of and are participating in the organization and management of the laboratory and classroom.	____	____
10. There is an established procedure being followed to open and close the class periods.	____	____
11. Operating funds have been provided for securing supplies and materials.	____	____
12. There is an established procedure followed to acquire the materials, repair parts, and jobs needed without loss of time to students or the instructor.	____	____
13. There is a planned program to replace outdated, lost and wornout tools, equipment, and books.	____	____
14. There is a planned program to keep equipment, tables, and benches in acceptable working condition.	____	____
15. Each spring near the end of school, time and materials are scheduled to finish tables, benches, and inventory tools and equipment.		
16. There is a permanent inventory file in either the principal's office or other school administrator's office showing current inventory and new items added and deleted for the current year.	____	____

		YES	NO
17.	Provisions have been made for permanent program records including student placement and follow-up records.	____	____

Comments:

Strengths:

Weaknesses:

Shop Housekeeping and Safety

1.	Housekeeping is satisfactory. Benches and floors are kept clean and uncluttered.	____	____
2.	Waste materials are not allowed to accumulate.	____	____
3.	Tools and equipment are inventoried and cleaned daily.	____	____
4.	Tools and equipment are put back in place when a job is completed and at the closing of each class session.	____	____
5.	Benches, equipment, floors, walls, and ceilings are painted and in good appearance.	____	____
6.	Auxiliary rooms are clean and uncluttered.	____	____
7.	There is a planned housekeeping program.	____	____
8.	Machines are equipped with guards and are being properly used.	____	____
9.	There are adequate provisions for fire protection (safety containers, fire extinguishers, limited volatile liquids, fire inspection, fire prevention, instruction, etc.)	____	____
10.	Equipment is properly wired. (Grounded machines and tools, cords, electrical inspection program, master control box, instruction on electrical hazards, etc.)	____	____
11.	There is adequate personal protection consideration. (Clothing, eyes, first aid, safety instruction, hazards resulting in personal injury, use of acid, and caustics, etc.)	____	____
12.	Provisions for storage of materials and handling of heavy items have been provided.	____	____
13.	Eye safety policies are being followed. Approved eye devices are worn when sawing, sanding, filing, welding, or using combustible materials.	____	____

YES NO

Placement and Follow-up

1. There is an organized plan to place graduates in the occupation for which they were trained or a related occupation. ____ ____

2. The instructor is actively engaged in placing and following-up graduates and has records to indicate this activity. ____ ____

3. The counselor is cooperating in placing and following-up graduates and is responsible for permanent placement records. ____ ____

4. Placement records indicate program results. ____ ____

Comments:

Strengths:

Weaknesses:

Leadership Development Program

1. The program has an organized youth leadership organization with scheduled meetings. ____ ____

2. The youth leadership chapter has a planned program of activities designed to develop leadership abilities and promote citizenship. ____ ____

3. The youth organization participates in district and state meetings. ____ ____

4. The youth leadership and citizenship activities are regarded by school officials as an integral part of the vocational instructional program. ____ ____

Comments:

Strengths:

Weaknesses:

CHAPTER VIII

ORGANIZING AND ADMINISTERING A VOCATIONAL OPPORTUNITIES CLUB OF TEXAS CHAPTER

A well-organized Vocational Opportunities Club of Texas (VOCT) chapter in a Coordinated Vocational Academic Education program can provide opportunities for bringing together students who share common interests so they can exchange ideas, discuss problems, and share common purposes. As a result of this exchange of ideas and efforts put forth to solve common problems, leadership is developed. Participation in the area contest provides an element of competition and helps develop self-esteem and pride in the student's occupation and school. Through the guidance of committed instructors, the unrealized potential of students can become a reality.

Organizing a VOCT Chapter

Organizing a chapter is not difficult if the advisor does the proper homework. To become familiar with how VOCT chapters operate, information can be secured from other vocational teachers who sponsor VOCT chapters; the Executive Secretary, Vocational Opportunity Clubs of Texas, P.O. Box 1392, Austin, Texas, 78701; or East Texas State University, Vocational Education, Commerce, Texas, 75428.

The advisor should set out to develop interest in VOCT among the students. This can be done by setting up committees of students to study the various activities offered during the year by VOCT. Until a chapter has been organized, each committee should have a student elected as chairperson to guide the committee's efforts.

After the committees have made their studies, a meeting should be held. At this meeting, the committee reports concerning the activities of the proposed chapter should be presented and discussed. The constitution from the handbook for Vocational Opportunities Club is read and discussed. After the constitution is approved, officers are elected. If the committee system does not function properly, the advisor should assume the role of the chairperson until the club is operating properly.

One of the initial duties of the newly-elected secretary is to complete an application for a charter. The application is signed by the chapter president and advisor. Once the charter has been received, the chapter is officially organized. Now the real work of the chapter begins.

Administration of a VOCT Chapter

The advisor should keep in mind at all times that the VOCT chapter is a youth organization. It should be operated by the officers of the chapter through the consent of the members. The responsibility of the advisor is to guide the direction of the chapter and advise the officers. The advisor must observe the fine line between concerned interest, advice, and trying to control the operation of the chapter.

The first duty of the newly elected president is to set up committees. These committees should involve as many members as possible in order to develop and maintain interest in the activities of the chapter. The number of committees depends on the chapter activities desired by the members. These committees might include: Program, Constitution, Publicity, Exhibits, Initiation, School Projects, Community Projects, Recreation, and Ways and Means.

In planning activities, consideration should be given to the value each activity will have for individual members. Through participation in VOCT activities, general growth is offered in the areas of leadership, citizenship, character development, and social competence. Activities should be selected to meet the needs of the students, school, and community. These selected activities of the VOCT chapter should be planned to offer its members a variety of projects in which to participate. These carefully planned projects will keep enthusiasm high and give the students a sense of accomplishment when each project is completed.

What a Club Can Mean to a Student

An organization can mean many things to a student. It can mean more to some than to others, according to the amount of work put into club activities. Club membership can develop leadership and comradeship in a student. It can also increase self-confidence, personality, and poise. Club activities also help the members become productive citizens by teaching them proper attitudes and building their character. Character and confidence development should be a club advisor's most important role in the club. Active club members create for themselves an interest in their school, local industry, and community. This increased interest, in turn, develops in the young person a more personal interest in community affairs resulting in a better job and better all-around opportunities for the young person.

The club also offers the student education in trade ethics, safety, and worthwhile group activities. It also encourages respect for the dignity of work and promotion of high standards of workmanship in his/her trade. The club can mean the difference in the student's leaving or staying in school and possibly continuing education in college. The VOCT organization is most important to this special type of student in that it can completely change his/her entire attitude toward life. It also presents the advisor with an opportunity to work with the student on a more personal level. It brings out the real meaning of the club creed to believe in the dignity of the work, the American way of life, education, fair play, and satisfaction created by good work. Materials pertaining to VOCT are also available from the Occupational Curriculum Laboratory, Vocational Education, East Texas State University, Commerce, Texas, 75428.

CHAPTER IX

STARTING AND CLOSING SCHOOL

The Coordinated Vocational Academic Education program is an integral part of the total school program. The instructor should make every effort to work within the framework of policies, curriculum, and broad purposes of the school system. This individual should have a clear understanding of individual responsibilities and obligations to the school and staff personnel in order to function efficiently.

Duties of the CVAE instructor are quite different because of the many factors involved in the overall operation of the shop or laboratory. This person must act as a teacher, supervisor, maintenance supervisor, inspector, records keeper, designer, safety supervisor, production manager, public relations expert, and guidance counselor.

Before School Starts:

1. Meet and confer with school officials.
2. Know and understand general school policies.
3. Know and understand scope of teaching assignment.
4. Know and understand the kinds of school records required.
5. Know and understand community background.
6. Know and understand type of students to be taught.
7. Know and understand objectives of course.
8. Have a course of study to follow.
9. Inspect shop and inventory equipment.
10. Secure necessary supplies and equipment.
11. Make sure equipment is in operating order.
12. Make sure shop is clean and in good order.
13. Formulate rules and regulations necessary for operation of the shop program.
14. Get acquainted with other teachers. (They are the best source of help in filling out forms or setting up class.)

Checklist for Beginning School

1. The first impressions are lasting, and the lasting attitude of the class toward the instructor and the work is likely to be determined by the ways in which the class is started.
2. Planning every detail of class activity beforehand will eliminate confusion, uncertainty, and unnecessary discipline problems during the first few days.
3. Make inspection of shop facilities and be prepared to start shop activity on the first day.
4. Plan teaching and work schedule well in advance.
5. Set an example by being on time.
6. Get acquainted with students and call them by name as early as possible.
7. Start the first class by introducing yourself and giving personal data about education and work experience. Let students stand and introduce themselves.
8. Complete data and information requested by school office.
9. Complete data and information for enrollment sheet, as illustrated on page 101, for personal records, and for the state report to the Texas Education Agency.
10. As early as possible, the instructor should introduce the first lesson, proceed with the demonstration, assign jobs, and get everyone to work.
11. Set up file system--keep personal copy of all correspondence, requisitions, reports, accidents, grades, disciplinary problems, and policies (school and shop).
12. Explain purpose of the students' presence in school.
13. Explain purpose and objectives of shop program.
14. Explain class organization, rules, regulations, etc.
15. Explain importance of safety and give information about required safety forms.
16. Start each class promptly by giving a very brief talk or demonstration. This is useful as a means of motivating students to work.
17. Establish a clear-cut routine for closing the class period. A student leadership responsibility chart will prove effective as a means of rotating cleanup duties.

18. Display samples of good work.

19. Keep records, reports, grades, and other necessary paper work up-to-date and in compliance with school officials at all times.

Records and Reports

Perhaps the part of teaching that causes the most concern is the paper work, yet this is an important aspect of maintaining a school shop. An organized system of filing will help any instructor in maintaining better records.

There will by many times throughout a teacher's career that information on past and present students is in demand. If copies of reports, enrollment forms, and Social Security cards are properly filed, the information can easily be provided.

Follow-ups on all students entering a program should be kept and continuously brought up-to-date. This information can be acquired through the present or past students and from parent contacts by phone.

Certain facts about the student that will be needed throughout the the year should be recorded when the student enters a program. The students' schedules, information about their parents, and personal data will all be needed during the year. An enrollment form is one method of securing these facts.

Since student Social Security numbers are demanded on many forms, an instructor should get Social Security card applications from the post office and have the students fill out the applications if they do not already have a number. The instructor should send these in for the students when complete.

ENROLLMENT SHEET
VOCATIONAL INDUSTRIAL EDUCATION

Date: ______________________

NAME ______________________________ S.S. No. ______________
Last Middle First

NAME STUDENT WOULD LIKE TO BE CALLED ______________________

AGE ______ DATE OF BIRTH ______________________ PRESENT GRADE ______
Month Day Year

SCHOOL YEAR STUDENT EXPECTS TO ENTER PRE-EMPLOYMENT LAB PROGRAM ______

STUDENT'S ADDRESS ______________________ PHONE ______________

FATHER'S NAME ______________________________

FATHER'S ADDRESS ______________________________

FATHER'S OCCUPATION ______________________________

FATHER'S EMPLOYER ______________________ PHONE ______________

MOTHER'S NAME ______________________________

MOTHER'S ADDRESS ______________________________

MOTHER'S OCCUPATION ______________________________

MOTHER'S EMPLOYER ______________________ PHONE ______________

PERSON TO CONTACT IN CASE OF EMERGENCY ______________________

RELATIONSHIP __________ ADDRESS ______________ PHONE __________

STUDENT EMPLOYED: YES ___ NO ___ WHERE ______________________

SUPERVISOR ______________ HOW LONG ________ ______________
No. hours worked each week

HOMEROOM TEACHER'S NAME ______________________________

THREE HIGH SCHOOL TEACHERS WHO COULD GIVE YOU A RECOMMENDATION:

1. ______________ 2. ______________ 3. ______________

Student's Agreement
(Read carefully before you sign)

I have read this form carefully and answered all questions correctly. I understand my obligation if accepted into this program will include complete and full participation in the local organization which is an affiliate of the state organization named the Vocational Opportunities Clubs of Texas (VOCT). This membership will begin in September and is in effect upon payment of yearly dues.

______________________________ ______________________________
Signature of Student Date

______________________________ ______________________________
Signature of Parent or Guardian Date

STUDENT'S SCHEDULE

Current Courses				Next Year's Courses			
Period	Subject	Room	Teacher	Period	Subject	Room	Teacher
1				1			
2				2			
3				3			
4				4			
Lunch				Lunch			
5				5			
6				6			
7				7			

REIMBURSABLE TRAVEL

There are many occasions during the year that an instructor needs to travel. An instructor's travel should be based on the local school administration's policies concerning travel.

Authorization

1. Travel expenses for vocational personnel are reimbursable only when authorized and approved by the administrator of schools.
2. Usual travel outside the school district includes district and state VICA or VOCT meetings, district and state teacher inservice workshops.
3. Teacher travel to approved meetings of vocational youth organizations is eligible for reimbursement only when the teacher is accompanied by official student delegates or eligible participants in contests.
4. Teachers applying for reimbursable travel to attend meetings must be in attendance to justify reimbursement to your school by the Texas Education Agency.
5. Your signature on the travel report is to certify that expenses are true and correct and were incurred in the performance of official duties in accordance with the policies of your Board of Education and the Texas Education Agency travel regulations.

Reimbursable Vocational Travel Expense

Travel expenses are reimbursable when authorized and approved by the administrator of schools. The following is a list of eligible travel for which mileage may be reimbursed.

1. To contact local groups and individuals for the purpose of explaining and interpreting the objectives, nature, and standards of vocational education.
2. To work with local advisory committees.
3. To contact local groups or individuals regarding employment opportunities of students.
4. To contact local businesses and industries to secure first-hand information and data.
5. To contact employers of vocational graduates to secure follow-up information and data.
6. To confer with parents of students or prospective students.

7. To examine and select equipment, materials, and teaching supplies for the vocational programs of the school at the direction of the administrator in cases where the selection of such items regarding types, sizes, quantities, costs, and suitability for vocational instruction depends largely upon the teacher's or supervisor's experience, judgment, and knowledge of such items.

   Travel incurred only to "pick up" and deliver or transport equipment and supplies or any other items is not reimbursable.

8. To contact local groups or individuals regarding employment opportunities of students and prospective students of vocational cooperative programs.

9. To work with employers in planning programs of instruction for individual students.

10. To make special or routine visitations to places of employment for training or students to secure information.

11. To organize and supervise instruction in approved vocational programs for in-school youth, out-of-school youth, and adults.

12. To develop and maintain local chapters of approved vocational leadership organizations.

13. To participate in scheduled district, area, or state in-service workshops called by the Commissioner of Education.

14. To participate in any special workshop or meeting called by the Commissioner of Education.

15. To secure or select equipment, materials, and projects for vocational program of the school in cases where the selection of such items regarding types, sizes, quantities, costs, and suitability for vocational instruction depends largely upon the teacher's experience, judgment, and knowledge of such items.

16. To attend shows, fairs, and contests in carrying out the activities of the local vocational program.

17. To participate in district, area, or state meetings of vocational youth programs.

18. To participate in meetings of significance to the vocational education program of the school which are conducted on a county- or district-wide basis or called or sponsored by the Education Service Center and approved by the Associate Commissioner for Occupational Ecucation and Technology. On the following page is an example of a widely used Travel form.

Monthly Travel Report For Teachers and Coordinators of Occupational Education and Technology

Prepare in duplicate and submit monthly to local school administrator.

Name of Teacher or Coordinator: ______________________________ **Month:** ____________________ 19____

Name of School: ______________________________ **Address:** ______________________________

RECORD OF TRANSPORTATION AND DUTIES PERFORMED

Day of Month	Time Leave Hour-Min-M	Locations Visited, People Contacted, and Official Duties Performed	Time Arrive Hour-Min-M	Miles Traveled or Fares Paid

(over)

* inter-city bus, airplane, or railroad, — receipts required

RECORD OF TRANSPORTATION AND DUTIES PERFORMED (CONTINUED)

Day of Month	Time Leave Hours-Min-M	Locations Visited, People Contacted, and Official Duties Performed	Time Arrive Hours-Min-M	Miles Traveled or Fares Paid*

TO BE FILLED OUT BY PERSONS CLAIMING PER DIEM ALLOWANCE IN STATE

LEAVE HEADQUARTERS				ARRIVE HEADQUARTERS				DAYS ON TRAV	AMOUNT	LEAVE HEADQUARTERS				ARRIVE HEADQUARTERS				DAYS ON TR	AMOUNT
Date	Hour	Min	m	Date	Hour	Min	m			Date	Hour	Min	m	Date	Hour	Min	m		
1				1						17				17					
2				2						18				18					
3				3						19				19					
4				4						20				20					
5				5						21				21					
6				6						22				22					
7				7						23				23					
8				8						24				24					
9				9						25				25					
10				10						26				26					
11				11						27				27					
12				12						28				28					
13				13						29				29					
14				14						30				30					
15				15						31				31					
16				16						Total Claimed for In State allowance									

ACTUAL EXPENSE SCHEDULE FOR OUT-OF-STATE TRAVEL ONLY

DATE	NO. FULL DAYS	NO. QUARTER DAYS	RATE PER DAY	MEALS	LODGING	TOTAL	DATE	NO. FULL DAYS	NO. QUARTER DAYS	RATE PER DAY	MEALS	LODGING	TOTAL
								TOTAL EXPENSES CLAIMED ABOVE					$

Total fares paid for travel by bus, airplane or railroad . . . . $ __________

Total car mileage, ________ miles at 16c per mile . . . . $ __________

Total per diem claimed for in-state travel . . . . $ __________

Total per diem claimed for out-of-state travel . . . . $ __________

Total Official Travel Expense for This Month . . . . $ __________

Total for the Year (Including This Month) . . . . $ __________

I certify that the above expenses are true and correct and were incurred by me in the performance of my official duties in accordance with policies of my Board of Education and according to Regulations on Reimbursable Vocational Teacher Travel established by the Texas Education Agency.

Approved by ______________________________ ______________________________

(School Administrator) (Supervisor, Coordinator or Teacher)

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Checklist for Closing School

1. Make a list of the instructional changes you feel necessary.
2. Develop new projects or jobs for next year.
3. Decide on the changes you wish to make in the shop that you consider necessary to the improvement of instruction.
4. Complete requisitions for new machines or repair parts for the present ones.
5. List the equipment no longer usable for proper instructional purposes.
6. Make requisitions for tools to replace those broken or lost.
7. Order materials and expendable supplies for next year.
8. Make department report to supervisor.
9. Finish student's report card and class records.
10. Finish all other year-end reports.
11. Remove all fire hazards from area.
12. Oil all bare metal surfaces of tools and machines that might rust.
13. Inventory all tools, supplies, machines, etc., and give copies to proper authorities.
14. Secure all classroom and shop equipment and tools by providing secure measures to prevent theft or loss.
15. Turn off the lock master switches to prevent machines from being used by unauthorized persons.
16. Do everything possible to ensure safe, secure storage of all equipment during the summer vacation period.
17. Turn in keys.

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